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April 28, 2015

Mr. Shane Guan  
National Marine Fisheries Service  
1315 East West Highway  
Silver Spring, MD 20910

**RE: 2015 Liberty Plan of Cooperation**

Dear Mr. Guan,

In accordance with 50 CFR 216.104(a)(12), Hilcorp Alaska, LLC hereby submits a Plan of Cooperation (POC) in support of our 2015 Liberty Shallow Geohazard Survey Incidental Take Authorization (IHA) application. This POC is intended to document Hilcorp's stakeholder engagement and to describe the measures Hilcorp will take or has taken to minimize adverse effects that its proposed shallow geohazard surveys may have on the availability of marine mammals for subsistence use. A copy of this POC will be sent to affected communities for their review and comment.

If you have any question or need additional information regarding this document, please contact me at (907) 777-8329 or via email at kkaufman@hilcorp.com.

Sincerely,

A handwritten signature in black ink, reading 'Kathryn Kaufman', followed by a long horizontal line.

Kathryn Kaufman  
Liberty Development Permitting Lead

cc (electronically, w/attachments):

Charlotte Brower, NSB

Marie Itta, NSB

Taqulik Hepa, NSB

Bob Harcharek, City of Barrow

Rhoda Ahmaogak, NSB

Thomas Napageak Jr., City of Nuiqsut

Issac Nukapigak, Kuukpik Corporation

Margaret Pardue, Native Village of Nuiqsut

Matthew Rexford, Native Village of Kaktovik

Nora Jane Burns, City of Kaktovik

Phillip Tikluk, Kaktovik Inupiat Corporation

Harry Brower, AEWG

Dorreen Lampe, ICAS

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Jack Omelak, Nanuuq Commission

Willie Goodwin, Alaska Beluga Whale Committee

John Goodwin, Alaska Ice Seal Committee

Craig Perham, USFWS

Christopher Putnam, USFWS

Jolie Harrison, NMFS

Shane Guan, NMFS

Bill Ingersoll, BOEM

David Johnston, BOEM

**PLAN OF COOPERATION  
LIBERTY UNIT SHALLOW GEOHAZARD SURVEYS, BEAUFORT SEA,  
ALASKA, 2015**

**April 22, 2015**

**Submitted by**

**Hilcorp Alaska, LLC  
3800 Centerpoint Drive  
Suite 1400  
Anchorage, AK 99503**



**to**

**National Marine Fisheries Service  
Office of Protected Resources  
1315 East-West Hwy, Silver Spring, MD 20910-3282**

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### Attachments:

**Attachment A:** Hilcorp's Marine Mammal Monitoring and Mitigation Plan

**Attachment B:** 2014-2015 Plan of Cooperation Meeting Minutes

**Attachment C:** Meeting Materials and Presentations

**Attachment D:** Distribution List



## **Hilcorp Alaska Plan of Cooperation for 2015 Liberty Ancillary Activities**

### **1.0 Introduction and Purpose**

Hilcorp Alaska, LCC (Hilcorp) plans to conduct a shallow hazard sonar survey in federal and state waters of Foggy Island Bay in the Beaufort Sea during the open water season of 2015. The shallow hazard survey is being conducted in support of the Liberty Development project. The Liberty reservoir is located in federal waters in Foggy Island Bay about 8 miles (mi) east of the Endicott Satellite Drilling Island (SDI). The 2015 study area lies partially within the Liberty Unit (Liberty), (Figure 1). The proposed development involves the construction of a gravel island over the reservoir, and the installation of a subsea pipeline to transport sales quality crude oil to shore, where an above ground pipeline will transport crude to the existing Badami pipeline. The shallow hazard sonar survey is planned over the proposed subsea pipeline corridor area.

This Plan of Cooperation (POC) was prepared in accordance with the following federal requirements:

- 50 CFR 216.104(a)(12), which requires a POC be submitted in support of a request for an Incidental Harassment Authorization (IHA) from the National Marine Fisheries Service (NMFS); and
- 50 CFR 18.114(c)(4), which requires a record of community consultation to be submitted in support of a request for a Letter of Authorization (LOA) from the U.S. Fish and Wildlife Service (USFWS)

This POC is intended to document Hilcorp's stakeholder engagement and to describe the measures Hilcorp will take, or has taken, to minimize adverse effects that its proposed shallow geohazard surveys may have on the availability of marine mammals for subsistence use. Hilcorp's LOA application, IHA application, and associated Marine Mammal Monitoring and Mitigation Plan describe the monitoring and mitigation measures that will be implemented during the exploration program to prevent conflicts with subsistence activities. Hilcorp intends to maintain open communication with all stakeholders throughout the Liberty permitting and development process. A copy of this Plan of Cooperation will be sent to affected communities for their review and comment. Feedback received will be incorporated into the document and into future operations.

### **2.0 Project Description**

A shallow geohazard survey, using multibeam echosounder, sidescan sonar, subbottom profiler and magnetometer is proposed over the site survey location and subsea pipeline corridor area. The purpose of this proposed survey is to look for geologic hazards and archaeological resources on the seafloor and in the shallow subsurface. There is no seismic acoustic component to this project.

## **2.1 Vessel Mobilization**

One main vessel will be used for the geohazard survey. The proposed survey vessel (M/V Sidewinder or equivalent) is about 40 x 14 ft. in size and will travel at approximately 3 knots during data acquisition. This vessel is currently stationed on the North Slope and will be prepared and launched at West Dock. Vessel preparation includes the assembly and installation of navigation, acoustic, and safety equipment. Once assembled, the navigation and acoustic systems will be tested and calibrated at West Dock or at the project site.

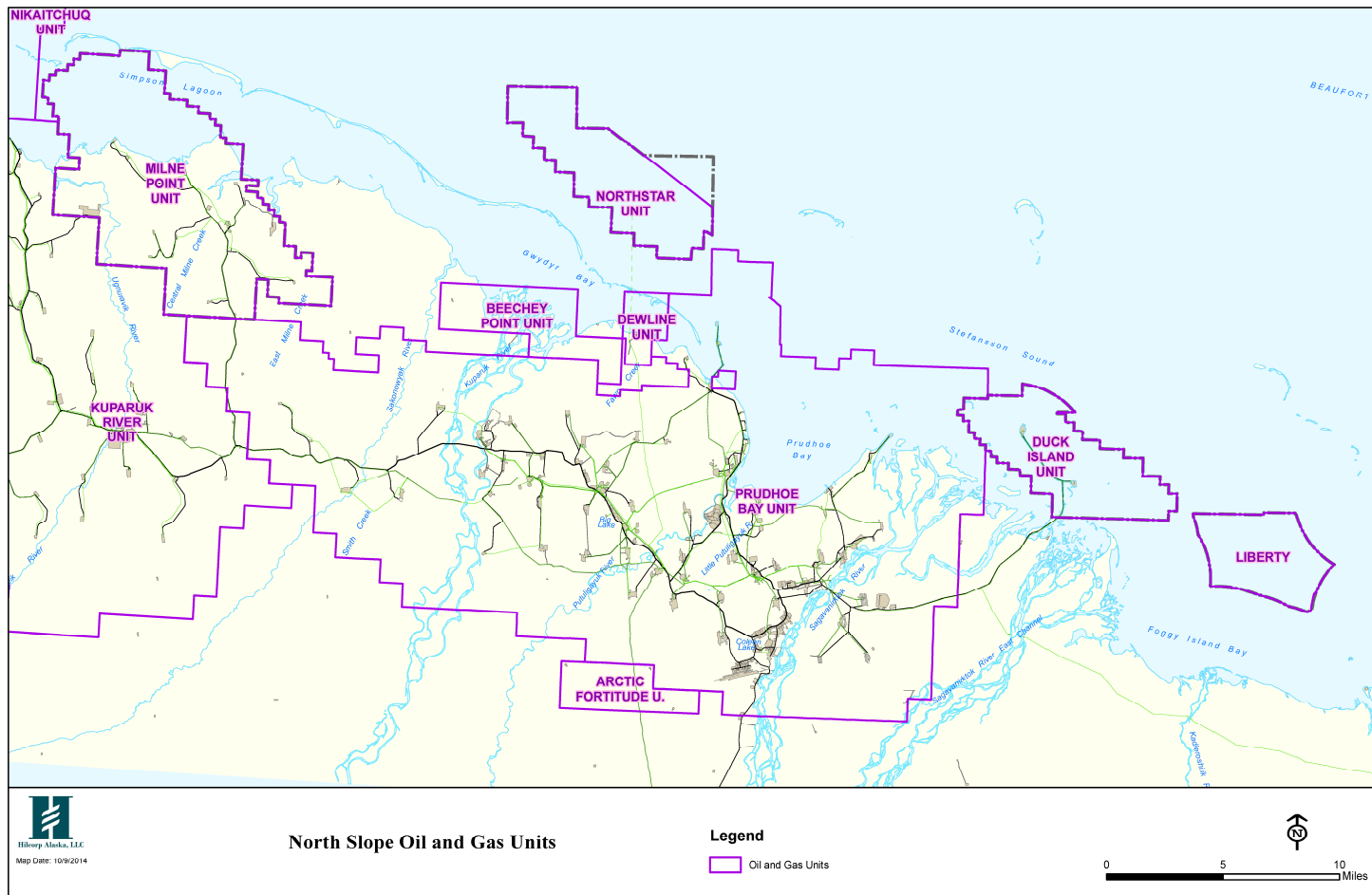


Figure 1. Overview of the eastern Beaufort Sea with the outline of the Liberty Unit.

## **2.2 Navigation and Data Management**

Each survey vessel will be equipped with a GPS receiving differential corrections from a variety of possible sources, including a shore-based kinematic base station.

Tidal corrections will be determined through GPS computation, comparison with any local tide gauges, or, if available, with tide gauges operated by other projects.

A navigation software package will display known obstructions, islands, and identified areas of sensitivity. The software will also show the pre-determined survey line plans. The information will be updated as necessary to ensure required data coverage. The navigation software will also record all measured equipment offsets and corrections, and vessel and equipment position at a frequency of no less than once per second during acoustic equipment operation.

## **2.3 Survey Design**

The proposed sonar survey vessel (M/V Sidewinder or equivalent) is about 40 x 14 feet in size. The sub-bottom profilers and magnetometer will be deployed from the vessel. The echosounder and side scan sonar will be hull-mounted. No equipment will be placed on the sea floor as part of survey activities. Because of the extremely shallow project area, additional small vessel(s) may be utilized to safely extend vessel operations for data collection. This will most likely comprise of a small skiff or inflatable craft with limited crew and range.

The total planned survey lines are approximately 300 miles, not including turns and cross-lines. The project area is 2.5 mi<sup>2</sup> in water depths ranging from 3 to 20 ft. The open water pipeline route geohazard and strudel scour / ice gouge survey period is expected to take approximately 45 days to complete, including weather and equipment change out downtime. About 25% of downtime is included in this total, so the actual number of days that equipment are expected to be operating is estimated at 34, based on a continuous 24-hr operation. Data will be acquired along the subsea pipeline corridor area (Figure 2) using the single-beam or multibeam echosounder, side scan sonar, sub-bottom profilers, and the magnetometer. Because of the shallow nature of the project area and small size of the vessel, systems will be towed in optimal groupings that best facilitate safe operations and data quality. As necessary, a small vessel may be used to extend data collection into shallow waters. Planned survey lines will be designed to acquire 150% side scan sonar data coverage or as mandated, with line spacing dependent upon water depth. A 300 m corridor around the centerline of the proposed pipeline area will be covered.

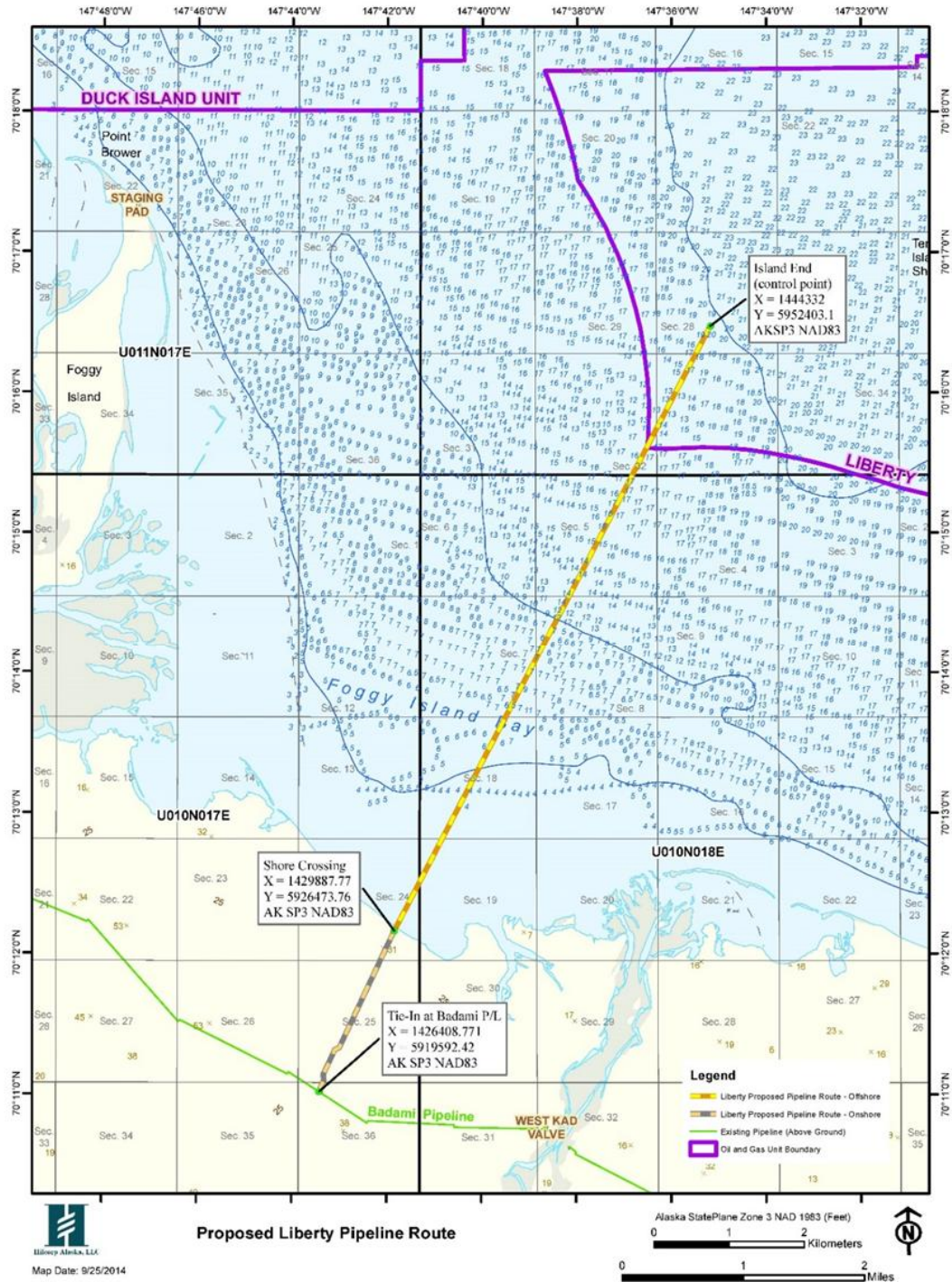


Figure 2. Overview of the Proposed Liberty Unit Pipeline Route.

### Multibeam echo sounder and side scan sonar

A single-beam or multibeam echosounder and side scan sonar will be used to obtain high accuracy information regarding bathymetry of the seafloor. For accurate object detection, a side scan sonar survey is required to complement a multibeam echosounder survey.

The proposed multibeam echosounder operates at an rms source level of a maximum of 220 dB re 1  $\mu$ Pa @1m. The multibeam echosounder emits high frequency (240 kHz) energy in a fan-shaped pattern of equidistant or equiangular beam spacing. The beam width of the emitted sound energy in the along-track direction is 1.5 degrees, while the across track beam width is 1.8 degrees. The maximum ping rate of the multibeam echosounder is 40 Hz.

The proposed single-beam echosounder operates at an rms source level of approximately 220 dB re 1  $\mu$ Pa @1m (Table 2). The transducer selected uses a frequency of 210 kHz and has a ping rate of up to 20 Hz. The transducer's beam width is approximately 3 degrees.

The proposed side scan sonar system will operate at about 400 kHz and 900 kHz. The rms source level is 215 dB re 1 $\mu$ Pa @1m. The sound energy is emitted in a narrow fan-shaped pattern, with a horizontal beam width of 0.45 degrees for 400 kHz and 0.25 degrees at 900 kHz, with a vertical beam width of 50 degrees. The maximum ping rate is 75 Hz.

### Sub-bottom profiler

The proposed high-resolution sub-bottom profiler operates at an rms source level of 210db re 1  $\mu$ Pa @1m. The proposed system emits energy in the frequency bands of 2 to 24 kHz. The beam width is 15 to 24 degrees. Typical pulse rate is between 3 and 10 Hz.

The proposed low-resolution sub-bottom profiler operates at an rms source level of 212db re 1  $\mu$ Pa @1m. This secondary sub-bottom profiler will be utilized as necessary to increase sub-bottom profile penetration. The proposed system emits energy in the frequency bands of 1 to 4 kHz.

### Magnetometer

A marine magnetometer will be used for the detection of magnetic deflection generated by geologic features and buried or exposed ferrous objects which may be related to archaeological artifacts or modern man-made debris. The magnetometer will be towed at a sufficient distance behind the vessel to avoid data pollution by the vessel's magnetic properties. Magnetometers passively measure changes in magnetic fields over the seabed and do not impact marine mammals.

### **3.0 Cooperation and Coordination**

In late 2014, Hilcorp began the community outreach process with a series of meetings with North Slope stakeholders. These meetings continued into 2015 and served multiple purposes:

- As a new operator on the North Slope, meetings were an opportunity to introduce Hilcorp to North Slope stakeholders.
- To present the 2015 geophysical survey plans to local communities and provide updates on project development.
- To gather feedback on the proposed operations and to incorporate this feedback into project planning.

In addition, Hilcorp has coordinated with federal, state and local regulatory agencies for the same purposes. In preparation for the 2015 activities, Hilcorp has had the opportunity to engage with a number of North Slope stakeholder groups. These meetings are listed below:

- December 2, 2014 – Village of Nuiqsut Community Meeting
- December 2, 2014 – Meeting with Kuukpiik Subsistence Oversight Panel (KSOP) Leadership
- January 8, 2015 – Meeting with Inupiat Community of the Arctic (ICAS)
- January 12, 2015 – Plan of Cooperation meetings with the Native Village of Barrow, North Slope Borough (NSB) Mayor's office, NSB Planning Department, NSB Wildlife Department, Alaska Eskimo Whaling Commission (AEWC) members, and Barrow Whaling Captains.
- January 13, 2015 – Plan of Cooperation meetings with Native village of Nuiqsut, Nuiqsut Whaling Captains, and Kuukpiik Corporation
- January 14, 2015 – Plan of Cooperation meetings with City of Kaktovik, Kaktovik Whaling Captains, Kaktovik Inupiat Corporation (KIC)
- January 29, 2015 – Presentation on the Liberty Development project to the NSB Planning Commission
- February 5, 2015 – Presentation on Liberty 2015 ancillary activities to Alaska Eskimo Whaling Commission, Mini-Conference

Hilcorp will continue to engage with community members as well as federal, state, and local regulatory agencies to gather and incorporate feedback into our proposed activities. Consultation will continue throughout 2015 with additional community meetings planned in early summer.

### **4.0 Measures to Reduce Impact**

Hilcorp intends to operate in a manner that will minimize impacts to subsistence activities from the 2015 geohazard surveys. Hilcorp has developed a Marine Mammal

Monitoring and Mitigation Plan (4MP) to outline measures that will be implemented to reduce the likelihood of impacts on marine mammals or subsistence. The 4MP is a combination of active monitoring of the area of operations and the implementation of mitigation measures designed to minimize project impacts to marine resources. If marine mammals are observed within or about to enter specific safety radii around the proposed survey activities, mitigation will be initiated by vessel-based protected species observers (PSOs).

Hilcorp's 4MP, which outlines the marine mammal monitoring program, PSO protocol and proposed mitigation and reporting, is included here as Attachment A.

## **5.0 Passive Acoustic Monitoring Program**

Hilcorp plans to conduct passive acoustic monitoring in conjunction with the shallow geohazard surveys. Passive acoustic monitoring will be conducted to document ambient noise conditions, to examine the spatial and temporal distribution of marine mammals based on acoustic detections of their vocalizations, and to characterize the long-range propagation of sounds produced during the geohazard survey. The goal of the program is to address knowledge gaps about ambient sound levels and the distributions and migration paths of several marine mammal species including bowhead whales, beluga whales, and seals. This acoustic monitoring plan is designed to fulfill National Marine Fisheries Service (NMFS) requirements for the collection of data to assist with assessing effects from industry on the marine environment and the availability of local subsistence resources. Additional information on the passive acoustic monitoring program can be found as part of the 4MP in Attachment A.

## **6.0 Future Plan of Cooperation Consultations**

Hilcorp plans to continue to engage with affected subsistence communities regarding its Liberty Development project and ongoing North Slope operations. In regards to the 2015 summer shallow geohazard survey program, Hilcorp will present data on marine mammal sightings and results of marine mammal monitoring as part of its 90 day report to regulators.



## **Attachment A**

**Marine Mammal Monitoring and Mitigation Plan for Liberty Unit Shallow  
Geohazard Surveys, Beaufort Sea, Alaska, 2015**

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**MARINE MAMMAL MONITORING AND MITIGATION PLAN**

**for**

**LIBERTY UNIT SHALLOW GEOHAZARD SURVEYS, BEAUFORT SEA, ALASKA, 2015**

**Submitted by**

**Hilcorp Alaska, LLC  
3800 Centerpoint Drive  
Suite 1400  
Anchorage, AK 99503**



**to**

**National Marine Fisheries Service  
Office of Protected Resources  
1315 East–West Hwy, Silver Spring, MD 20910-3282**

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## 1. Introduction

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Hilcorp Alaska, LLC (Hilcorp) plans to conduct a shallow geohazard survey and strudel scour survey with a transition zone component on state lands, and in federal and state waters of Foggy Island Bay in the Beaufort Sea during the open water season of 2015. The geohazard and strudel scour surveys are being conducted in support of the development of the Liberty field. The Liberty reservoir is located in federal waters in Foggy Island Bay about 8 miles (mi) east of the Endicott Satellite Drilling Island (SDI). The project's preferred alternative is to build a gravel island situated over the reservoir and to install a subsea pipeline to transport sales quality crude oil to shore, where an above ground pipeline will transport crude to the existing Badami pipeline.

In support of the preferred alternative, a shallow geohazard survey is planned with an emphasis on obtaining subsurface information for the development of a subsea pipeline. The sonar survey, using multibeam echosounder, sidescan sonar, sub-bottom profiler, and magnetometer is planned over the proposed subsea pipeline corridor area. The purpose of this proposed survey is to evaluate the existence and location of archaeological resources, potential geologic hazards on the seafloor and in the shallow subsurface, and to investigate strudel scours and ice gouges. There is no seismic acoustic component to this project.

The proposed Liberty pipeline route open water survey will consist of the shallow geohazard and strudel scour surveys. Strudel scour surveys investigate the depth and distribution of ice gouges into the seabed and, site clearance and shallow hazard surveys focus on the upper 1,000 m of the seabed within select areas of interest near offshore drilling locations and proposed pipeline corridors. The types of equipment used to conduct these surveys are focused on limited areas and emit low-level, very-high to low frequency acoustic continuous sounds during discrete time periods over very limited areas of the ocean bottom and intervening water column. During data acquisition, the total planned survey lines are approximately 300 miles, not including turns and cross-lines; the source vessels of the proposed Liberty Unit shallow geohazard survey will cover an area of about 2.5 mi<sup>2</sup> in water depths ranging from 3 to 20 ft.

Hilcorp's 4MP is a combination of active monitoring of the area of operations and the implementation of mitigation measures designed to minimize project impacts to marine resources. If marine mammals are observed within or about to enter specific safety radii around the proposed survey activities, mitigation will be initiated by vessel-based protected species observers (PSOs). The operating frequencies of the multibeam, single-beam, and sidescan sonar equipment in this survey are above the hearing range of all marine mammals. Estimated distances to sound pressure levels of 190, 180, and 160 dB re 1 µPa, generated by the proposed sub-bottom equipment is

EQUIPMENT	DISTANCE (IN METERS)				COMMENT
	190 dB	180dB	160dB	120dB	
<b>Sub-bottom profiler (Directional Beam)</b>	< 30	< 30	30	450	Within hearing range of all marine mammal species

Distances (in meters) to four received Sound Pressure Levels (SPLs) [In dB re 1 µPa (rms)] from existing measurements of geophysical equipment, similar to those proposed for this survey. Measurements were conducted in water depths of about 100ft. (~35m). Source: Warner & McCrodan 2011.

Sounds generated by the sub-bottom profiler are within the hearing range of all marine mammal species occurring in the area. Review of current information for similar equipment in the Arctic resulted in estimating the distance to 160 dB re 1  $\mu$ Pa (rms) at 30m (Warner & McCrodan 2011). The mitigation radius of the proposed sub-bottom profiler is:

EQUIPMENT	DISTANCE (IN METERS)
Sub-bottom Profiler	50

Distances (in meters) to be used for mitigation purposes for the proposed 2015 Liberty Unit Shallow Geohazard survey.

Vessel-based monitoring during sonar activity and periods when equipment are not active will provide information on the numbers of marine mammals potentially affected by the survey activities and facilitate real time mitigation to prevent impacts to marine mammals by industrial sounds or activities. Vessel-based PSOs will record the numbers and species of marine mammals observed in the area and any observable reaction of marine mammals to the survey activities.

A unit wide acoustics program will characterize the ambient sound levels occurring during the survey. Passive acoustic monitoring will be conducted to document ambient noise conditions, to examine the spatial and temporal distribution of marine mammals based on acoustic detections of their vocalizations, and to characterize the long-range propagation of sounds produced during the geohazard survey. Marine Survey equipment to be used includes:

EQUIPMENT	Sample Equipment Model Type	OPERATING FREQUENCY	ALONG TRACK BEAM WIDTH	ACROSS TRACK BEAM WIDTH	RMS SOURCE PRESSURE LEVEL (Directional) Re 1 $\mu$ Pa @1m
Multibeam echosounder	Reson 7101 SV <sup>a</sup>	240 kHz	1.5°	1.8°	220 dB
Single-beam echosounder	Odom <sup>b</sup>	210 kHz	3°	3°	220 dB
Side scan sonar	Edgetech 4125 <sup>c</sup>	400 kHz/900 kHz	0.5°	50°	215 dB
High resolution (CHIRP) sub-bottom profiler	Edgetech 3200 <sup>d</sup>	2 to 24 kHz	15° to 24°	15° to 24°	210 dB
Low resolution sub-bottom profiler	Applied Acoustics AA251 <sup>e</sup>	1 to 4 kHz	n/a	n/a	212 dB

<sup>a</sup> Verbal conversation with Kelly Wright, engineer with Teledyne Reson 12/3/14, and Equipment Specification document "SeaBat(r) 7101".

<sup>b</sup> Computed using equation for source level of directional circular transducer. Principles of Underwater Sound, Chapter 2, Robert J. Urick, 1975, and Equipment Specification document "SMBB200-3 information sheet".

<sup>c</sup> Edgetech document "4125 source level specification" received via email from Edgetech representative Rob Morris on 7/1/2014, and Equipment Specification document "Edgetech 4125 Side Scan Sonar System".

<sup>d</sup> Edgetech document "3200 SB system transmit level" received via email from Edgetech representative Rob Morris on 7/1/2014, and Equipment Specification document "Edgetech 3200 Sub-bottom Profiling System".

<sup>e</sup> Equipment Specification document "AA251, AA301 Boomer Seismic Sound Source".

Support activities, such as crew transfers and vessel re-supply are primarily planned to occur at West Dock. Equipment staging and on shore support will primarily occur at West Dock, with secondary locations at SDI or the SDI causeway. For protection from weather, the vessel may anchor near West Dock, near the barrier islands, or other safe harbor, near shore locations. Hilcorp plans to conduct marine surveys from a single vessel with another smaller vessel likely surveying shallower areas. Timing of the work will depend on weather, ice conditions, and avoidance of subsistence activities. The marine surveys are planned to begin July 1 and all sonar

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activities will cease August 25 when whale hunting traditionally begins. Demobilization of equipment is planned to be complete before the end of September. The total time span of the sonar survey period in the Foggy Island Bay area is estimated to be approximately 45 days. About 25% of downtime is included in this total, so the actual number of days that equipment are expected to be operating is estimated at 34, based on a continuous 24-hr operation.

The 4MP developed for Hilcorp's planned activities support the protection of marine mammal resources in the area, fulfills reporting obligations to the Bureau of Ocean Energy Management (BOEM), the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and establishes a means for gathering additional data on marine mammals for future operations planning.

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## **2. Marine Mammal Monitoring**

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Hilcorp's 4MP is a combination of active monitoring of the area of operations and the implementation of mitigation measures designed to minimize project impacts to marine resources. Monitoring will provide information on the numbers of marine mammals potentially affected by the exploration operations and facilitate real time mitigation to prevent injury of marine mammals by industrial sounds or activities. These goals will be accomplished in the Foggy Island Bay during 2015 by conducting vessel-based monitoring from the survey vessel(s), and an acoustic monitoring program to document underwater sounds and the vocalizations of marine mammals in the unit. Similar to other programs, Hilcorp will monitor marine mammals from the survey vessel(s) to provide information on impacts that may be specific to these operations.

Visual monitoring by Protected Species Observers (PSOs) during active marine survey operations, and periods when these surveys are not occurring, will provide information on the numbers of marine mammals potentially affected by these activities and facilitate real time mitigation to prevent impacts to marine mammals by industrial sounds or operations. Vessel-based PSOs will record the numbers and species of marine mammals observed in the area and any observable reaction of marine mammals to the survey activities in the Foggy Island Bay survey area.

Passive acoustic monitoring will be conducted to document ambient noise conditions, to examine the spatial and temporal distribution of marine mammals based on acoustic detections of their vocalizations, and to characterize the long-range propagation of sounds produced during the geohazard survey. The goal of the program is to address knowledge gaps about ambient sound levels and the distributions and migration paths of several marine mammal species including bowhead whales, beluga whales, and seals.

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## **3. Vessel-Based Marine Mammal Monitoring Program**

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The vessel-based operations of Hilcorp's 4MP are designed to meet the requirements of Incidental Harassment Authorization (IHA) and Letter of Authorization (LOA) permits issued by NMFS and USFWS, respectively, and to meet any other stipulation agreements between Hilcorp and other agencies or groups. The objectives of the program will be:

- to ensure that disturbance to marine mammals and subsistence hunts is minimized and all permit stipulations are followed,

- 
- to document the effects of the proposed survey activities on marine mammals, and
  - to collect data on the occurrence and distribution of marine mammals in the study area during survey activities.

The 4MP will be implemented by a team of experienced PSOs, including both biologists and Inupiat personnel. PSOs will be stationed aboard the marine survey vessel(s). Reporting of the results of the vessel-based monitoring program will include the estimation of the number of “takes” as stipulated in the IHA and LOA.

The vessel-based portion of Hilcorp’s 4MP will be required to support the survey activities in Foggy Island Bay. The survey dates and specific operating areas are described above, but will also depend somewhat upon ice and weather conditions.

The vessel-based work will provide:

- the basis for real-time mitigation, if necessary, as required by the various permits that Hilcorp receives
- information needed to estimate the number of “takes” of marine mammals by harassment, which must be reported to NMFS and USFWS;
- data on the occurrence, distribution, and activities of marine mammals in the areas where the survey program is conducted;
- information to compare the distances, distributions, behavior, and movements of marine mammals relative to the survey vessel at times with and without various activities, and;
- a communication channel to coastal communities including Inupiat whalers and other subsistence users.

The 4MP will be operated and administered to be consistent with monitoring programs conducted during previous shallow hazards surveys conducted in the Liberty Unit or such alternative requirements as may be specified in the authorizations issued this project. Any other stipulations from agreements between Hilcorp and agencies or groups such as BOEM, USFWS, the North Slope Borough (NSB), and the Alaska Eskimo Whaling Commission (AEWC) will also be fully incorporated. All PSOs will be provided training through a program approved by NMFS and Hilcorp, as described below. At least one observer on each project vessel will be an Inupiat who will have the additional responsibility of communicating with coastal communities.

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### *3.1. Mitigation Measures during Survey Activities*

Hilcorp’s planned marine surveys incorporate both design features and operational procedures for minimizing potential impacts on marine mammals and on subsistence hunts. The design features and operational procedures have been described in the IHA and LOA applications submitted to NMFS and USFWS, respectively, and are summarized below. Survey design features include:

- timing and locating survey activities to avoid interference with the annual fall bowhead whale hunt;
- limiting the size of the sound sources to minimize energy introduced into the marine environment; and,
- establishing precautionary safety radii based on previous measurements of a similar sound source in the area.

The potential disturbance of marine mammals during survey and equipment maintenance activity will be minimized further through the implementation of several ship-based mitigation measures if mitigation becomes necessary. General mitigation measures, per the NMFS IHA and USFWS LOA stipulations, will be implemented by PSOs aboard all vessels to reduce potential impacts to marine mammals from vessel(s)

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movements. These general mitigation measures include reductions in vessel speed and alterations in vessel course to avoid marine mammals and maximize the distance between vessels and animals.

### *3.1.1. Safety and Disturbance Zones*

Under current NMFS guidelines (e.g., NMFS 2000), “safety radii” for marine mammals around industrial sound sources are customarily defined as the distances within which received sound levels are  $\geq 180$  dB re 1  $\mu$ Pa (rms) for cetaceans and  $\geq 190$  dB re 1  $\mu$ Pa (rms) for pinnipeds. These safety criteria are based on an assumption that sound energy received at lower received levels will not injure these animals or impair their hearing abilities, but that higher received levels might have some such effects. Disturbance or behavioral effects to marine mammals from underwater sound may occur after exposure to sound at distances greater than the safety radii (Richardson et al. 1995).

The operating frequencies of the multibeam, single-beam, and sidescan sonar equipment in this survey are above the hearing range of all marine mammals. Estimated distances to sound pressure levels of 190, 180 dB re 1  $\mu$ Pa, generated by the proposed sub-bottom equipment is  $< 30$  m. Sounds generated by the sub-bottom profiler are within the hearing range of all marine mammal species occurring in the area. Review of current information for similar equipment in the Arctic resulted in estimating the distance to 160 dB re 1  $\mu$ Pa (rms) at 30m (Warner & McCrodan 2011). The mitigation radius of the proposed sub-bottom profiler is conservatively set at 50 m. The mitigation measure to be implemented at the conservative radii distance of 50 m will be a shut down. A shut down is the immediate cessation of all sonar energy sources. The sonar equipment will be immediately powered down whenever a marine mammal is sighted approaching close to or within the applicable safety zone.

### *3.1.2. Poor visibility conditions*

Hilcorp plans to conduct 24-hr operations. PSOs will not be on duty during ongoing sonar operations during darkness, given the very limited effectiveness of visual observation at night (there will be no periods of darkness in the survey area until mid-August). The proposed provisions associated with operations at night or in periods of poor visibility include the following:

- If during foggy conditions, heavy snow or rain, or darkness (which may be encountered starting in late August), the full 50 m safety zone is not visible, the sonar equipment cannot resume from a full shut-down.
- If sonar equipment is operational before nightfall or before the onset of poor visibility conditions, they can remain operational throughout the night or poor visibility conditions; on the assumption that marine mammals will be alerted by the sounds from the vessel and have moved away.
- Sonar equipment will not be operated during long transits when exploration activities are not occurring, or if visibility conditions impede safe vessel operations in the survey area. This does not apply to turns when starting a new track line.

### *3.1.3. Protected Species Observers*

Two marine mammal observers (PSOs) will be present on the main sonar vessel. The smaller skiff may only accommodate one at a time. Of these two PSOs, one will be on watch at all times, except ongoing sonar



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operations during darkness, to monitor the 50 m safety radius for the presence of marine mammals during sonar operations. The main objectives of the vessel-based marine mammal monitoring are as follows:

1. To implement mitigation measures during sonar operations (e.g. course alteration, power-down, shut-down and ramp-up);
2. To record all marine mammal data needed to estimate the number of marine mammals potentially affected, which must be reported to NMFS within 90 days after the survey.

#### *3.1.4. Protected Species Observer Protocol*

Hilcorp intends to work with PSOs who have had previous experience. All PSOs shall be trained and approved by NMFS. At least one Alaska Native resident, who is knowledgeable about Arctic marine mammals and the subsistence hunt, is expected to be included as an additional team member aboard the vessels. Before the start of the sonar survey the crew of the vessel and skiff(s) will be briefed on the function of the PSOs, their monitoring protocol, and mitigation measures to be implemented.

Observers will complete a training and refresher session on marine mammal monitoring, to be conducted shortly before the anticipated start of the 2015 open-water season. Any exceptions will have or receive equivalent experience or training.

Primary objectives of the training include:

- review of the marine mammal monitoring plan for this project, including any amendments specified by NMFS or USFWS in the IHA or LOA, by BOEM, BSSE or by other agreements in which Hilcorp may elect to participate;
- review of marine mammal sighting, identification, and distance estimation methods;
- review of operation of specialized equipment (reticle binoculars and GPS system);
- review of, and classroom practice with, data recording and data entry systems, including procedures for recording data on marine mammal sightings, monitoring operations, environmental conditions, and entry error control. These procedures will be implemented through use of a customized computer database and laptop computers;
- review of the specific tasks of the Inupiat Communicator.

The project will have two PSO aboard the source vessel and skiff(s) during the surveys. On all source vessels, at least one observer will monitor for marine mammals at any time during daylight hours (there will be no periods of total darkness until mid-August). PSOs will be on duty in shifts of a maximum of 4 hours at a time, a maximum of 12 hours watch time per day per PSO; although the exact shift schedule will be established by the lead PSO in consultation with the other PSOs.

All sonar source vessels will offer suitable platforms for marine mammal observations. Observations will be made from locations where PSOs have the best view around the vessel. During daytime, the PSO(s) will scan the area around the vessel systematically with reticle binoculars and with the naked eye. Because the main purpose of the PSO on board the vessel is detecting marine mammals for the implementation of mitigation measures according to specific guidelines, we prefer to keep the information to be recorded as concise as

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possible. This will allow the observer to focus on detecting marine mammals. The following information will be collected:

- Environmental conditions – consisting of sea state (in Beaufort Windforce scale according to NOAA), visibility (in km, with 10 km indicating the horizon on a clear day), and sun glare (position and severity). These will be recorded at the start of each shift, whenever there is an obvious change in one or more of the environmental variables, and whenever the observer changes shifts.
- Project activity – consisting of sonar activity (on or off), type, and line number. This will be recorded at the start of each shift, whenever there is an obvious change in project activity, and whenever the observer changes shifts.
- Sighting information – consisting of the species (if determinable), group size, position and heading relative to the vessel, behavior, movement, and distance relative to the vessel (initial and closest approach). These will be recorded upon sighting a marine mammal or group of animals.

### *3.1.5. PSO Handbook*

A PSO's Handbook will be prepared for Hilcorp's 2015 vessel-based monitoring program. Handbooks contain maps, illustrations, and photographs, as well as text, and are intended to provide guidance and reference information to trained individuals who will participate as PSOs. The following topics will be covered in the PSO Handbook for the Hilcorp project:

- summary overview descriptions of the project, marine mammals and underwater noise, the marine mammal monitoring program (vessel roles, responsibilities), the NMFS IHA and USFWS LOA and other regulations/permits/agencies, the Marine Mammal Protection Act;
- monitoring and mitigation objectives and procedures, including safety radii;
- responsibilities of staff and crew regarding the marine mammal monitoring plan;
- instructions for ship crew regarding the marine mammal monitoring plan;
- data recording procedures: based on sub-contractor procedures;
- list of species that might be encountered: identification, natural history;
- reticle binocular distance scale;
- table of wind speed, Beaufort wind force, and sea state codes;
- data quality-assurance/quality-control, delivery, storage, and backup procedures;
- safety precautions while onboard;
- scheduling of cruises and watches;
- copies of the NMFS IHA and USFWS LOA when available.

### *3.1.6. Communication Procedures*

When marine mammals in the water are detected within or about to enter the designated safety zones, the shut-down procedures will be implemented immediately. To assure prompt implementation of shut-downs, multiple

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channels of communication between the PSOs and the sonar technicians will be established. During the shut-down, the PSO(s) will continue to maintain watch to determine when the animal(s) are outside the safety radius. Sonar operations can be resumed if the observers have visually confirmed that the animal(s) moved outside the safety zone, or if the animal(s) were not observed within the safety zone for 15 minutes (seals) or for 30 minutes (whales). Direct communication with the sonar operator will be maintained throughout these procedures.

### *3.1.7. Data Recording*

All marine mammal observations and any sonar shut-down / resumption will be recorded in a standardized format. Data will be entered into or transferred to a custom database. The accuracy of the data entry will be verified daily through QA/QC procedures. Recording procedures will allow initial summaries of data to be prepared during and shortly after the field program, and will facilitate transfer of the data to other programs for further processing and archiving.

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## *3.2. Monitoring Methodology*

The observer(s) will watch for marine mammals from the best available vantage point on the survey vessels, typically the bridge. The observer(s) will scan systematically with the unaided eye and 7×50 reticle binoculars, or equivalent when needed. Personnel on the bridge will assist the marine mammal observer(s) in watching for marine mammals.

PSOs aboard the marine survey vessel(s) will give particular attention to the areas within the marine mammal exclusion zones around the source vessel, the 50 m safety radii.

Information to be recorded by PSOs will include the following:

- Species, group size, age/size/sex categories (if determinable), behavior when first sighted and after initial sighting, heading (if determinable), bearing and distance from observer, apparent reaction to activities (e.g., none, avoidance, approach, paralleling, etc.), closest point of approach, and pace.
- Time, location, speed, and activity of the vessel, sea state, ice cover, visibility, and sun glare.
- The positions of other vessel(s) in the vicinity of the observer location.

The ship's position, speed of the vessel, water depth, sea state, ice cover, visibility, and sun glare will also be recorded at the start and end of each observation watch, every 30 minutes during a watch, and whenever there is a substantial change in any of those variables.

Distances to nearby marine mammals will be estimated with binoculars (7×50 reticle binoculars) containing a reticle to measure the vertical angle of the line of sight to the animal relative to the horizon. Observers may use a laser rangefinder to test and improve their abilities for visually estimating distances to objects in the water. However, previous experience has shown that a civilian grade laser rangefinder was not able to measure distances to seals more than about 70 m (230 ft.) away. The device was very useful in improving the distance estimation abilities of the observers at distances up to about 600 m (1968 ft.)—the maximum range at which the device could measure distances to highly reflective objects such as other vessels. Humans observing objects of more-or-less known size via a standard observation protocol, in this case from a standard height above water, quickly become able to estimate distances within about  $\pm 20\%$  when given immediate feedback about actual distances during training.

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When a marine mammal is seen within the safety radius applicable to that species, the marine survey crew will be notified immediately so that mitigation measures called for in the applicable authorization(s) are implemented.

### *3.2.1. Monitoring At Night and In Poor Visibility*

Hilcorp plans to conduct 24-hr operations. PSOs will not be on duty during ongoing sonar operations during darkness, given the very limited effectiveness of visual observation at night (there will be no periods of darkness in the survey area until mid-August). The proposed provisions associated with operations at night or in periods of poor visibility include the following:

- If during foggy conditions, heavy snow or rain, or darkness (which may be encountered starting in late August), the full 50 m safety zone is not visible, the sonar equipment cannot resume from a full shut-down.
- If sonar equipment is operational before nightfall or before the onset of poor visibility conditions, they can remain operational throughout the night or poor visibility conditions; on the assumption that marine mammals will be alerted by the sounds from the vessel and have moved away.
- Sonar equipment will not be operated during long transits when exploration activities are not occurring, or if visibility conditions impede safe vessel operations in the survey area. This does not apply to turns when starting a new track line.

### *3.2.2. Field Equipment*

Hilcorp will provide or arrange for the following specialized field equipment for use by PSOs aboard the survey vessel: reticle binoculars, GPS unit, laptop computer(s), digital still and possibly digital video cameras.

### *3.2.3. Field Data-Recording, Verification, Handling, and Security*

The observers will record their observations directly into computers running a sub-contractor custom designed software package. Paper datasheets will be available as backup if necessary. The accuracy of the data entry will be verified in the field by computerized validity checks as the data are entered, and by subsequent manual checking of the database printouts. These procedures will allow initial summaries of data to be prepared during and shortly after the field season, and will facilitate transfer of the data to statistical, graphical or other programs for further processing. Quality control of the data will be facilitated by (1) the start-of-season training session, (2) subsequent supervision by the onboard field crew leader, and (3) ongoing data checks during the field season.

In addition to routine PSO duties, observers will have available Traditional Knowledge and Natural History datasheets and voice recorders to document observations that are not captured by the sighting or effort data. Copies of these records will be available to observers for reference if they wish to prepare a statement about their observations. If prepared, this statement would be included in the 90-day and final reports documenting the monitoring work.

### *3.2.4. Field Reports*

Throughout the survey program, observers will prepare a report each day or at such other intervals as NMFS, USFWS, BOEM, or Hilcorp may require, summarizing the recent results of the monitoring program. The reports will summarize the species and numbers of marine mammals sighted. These reports will be provided to NMFS and to the survey operators.

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### 3.2.5. Reporting

The results of the 2015 vessel-based monitoring, including estimates of “take by harassment”, will be presented in 90-day and final technical reports. Reporting will address the requirements established by NMFS and USFWS.

The technical report(s) will include:

- summaries of monitoring effort: total hours, total distances, and distribution of marine mammals through the study period accounting for sea state and other factors affecting visibility and detectability of marine mammals;
- analyses of the effects of various factors influencing detectability of marine mammals including sea state, number of observers, and fog/glare;
- species composition, occurrence, and distribution of marine mammal sightings including date, water depth, numbers, age/size/gender categories, group sizes, and ice cover;
- analyses of the effects of survey operations:
  - sighting rates of marine mammals during periods with and without airgun activities (and other variables that could affect detectability);
  - initial sighting distances versus airgun activity state;
  - closest point of approach versus airgun activity state;
  - observed behaviors and types of movements versus airgun activity state;
  - numbers of sightings/individuals seen versus airgun activity state;
  - distribution around the survey vessel versus airgun activity state;
  - multiple estimates of “take by harassment.”

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## 4. Literature Cited

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## PASSIVE ACOUSTIC MONITORING PLAN

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### 2015 Liberty Geohazard Survey

December 18, 2014

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This document provides a proposed approach for passive acoustic monitoring in support of Hilcorp's proposed summer 2015 geohazard survey in support of the Liberty development project. This acoustic monitoring plan is designed to fulfill National Marine Fisheries Service (NMFS) requirements for the collection of data to assist with assessing effects from industry on the marine environment and the availability of local subsistence resources. This acoustic monitoring plan has been designed to inform about ambient conditions and to quantify marine mammal presence in the project area.

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## 1. Passive Acoustic Monitoring Study Plan

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### 1.1. Purpose

Passive acoustic monitoring will be conducted to document ambient noise conditions, to examine the spatial and temporal distribution of marine mammals based on acoustic detections of their vocalizations, and to characterize the long-range propagation of sounds produced during the geohazard survey. The goal of the program is to address knowledge gaps about ambient sound levels and the distributions and migration paths of several marine mammal species including bowhead whales, beluga whales, and seals.

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### 1.2. Methods - Equipment

The acoustic data will be collected with autonomous acoustic recording systems deployed on the seabed for an extended period. JASCO will make acoustic measurements using its specialized Autonomous Multichannel Acoustic Recorder (AMAR) systems (Figure 1). These systems will be deployed on the seabed and will record continuously at 64 kHz sample rate and 24-bit samples. The AMARs will be calibrated using pistonphone calibrators immediately before and after each deployment. These calibrations are accurate to less than 0.5 dB absolute.

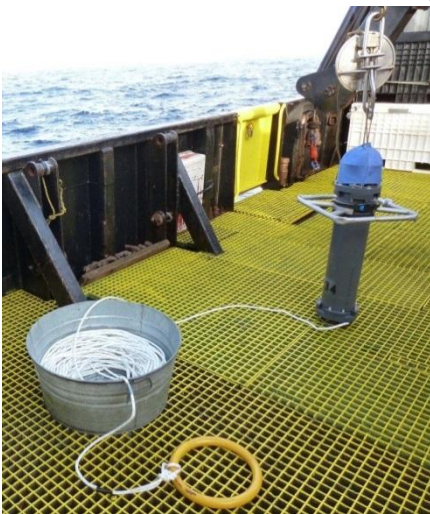


Figure 1 AMAR being deployed in the Chukchi Sea.

The AMARS will be configured with a single channel using a sensitive hydrophone and will be configured to record at 64 kHz for up to 90 days. They are capable of recording marine mammal sounds and making both ambient and anthropogenic noise measurements. This sampling frequency will capture the lower frequency



range of beluga whale vocalizations and will fully capture bowhead vocalizations. We will also be able to detect sounds from seals with this sample rate. Two recorders are proposed to be deployed near the Liberty prospect and will be aligned with the planned geohazard survey line, at distances of 500 m and 5000 m from the offshore end of the survey line. The recorders will be located inside of the barrier islands, an area where there is not expected to be high numbers of bowhead or beluga whale detections.

The proposed stations for the recorders are shown in Figure 2.

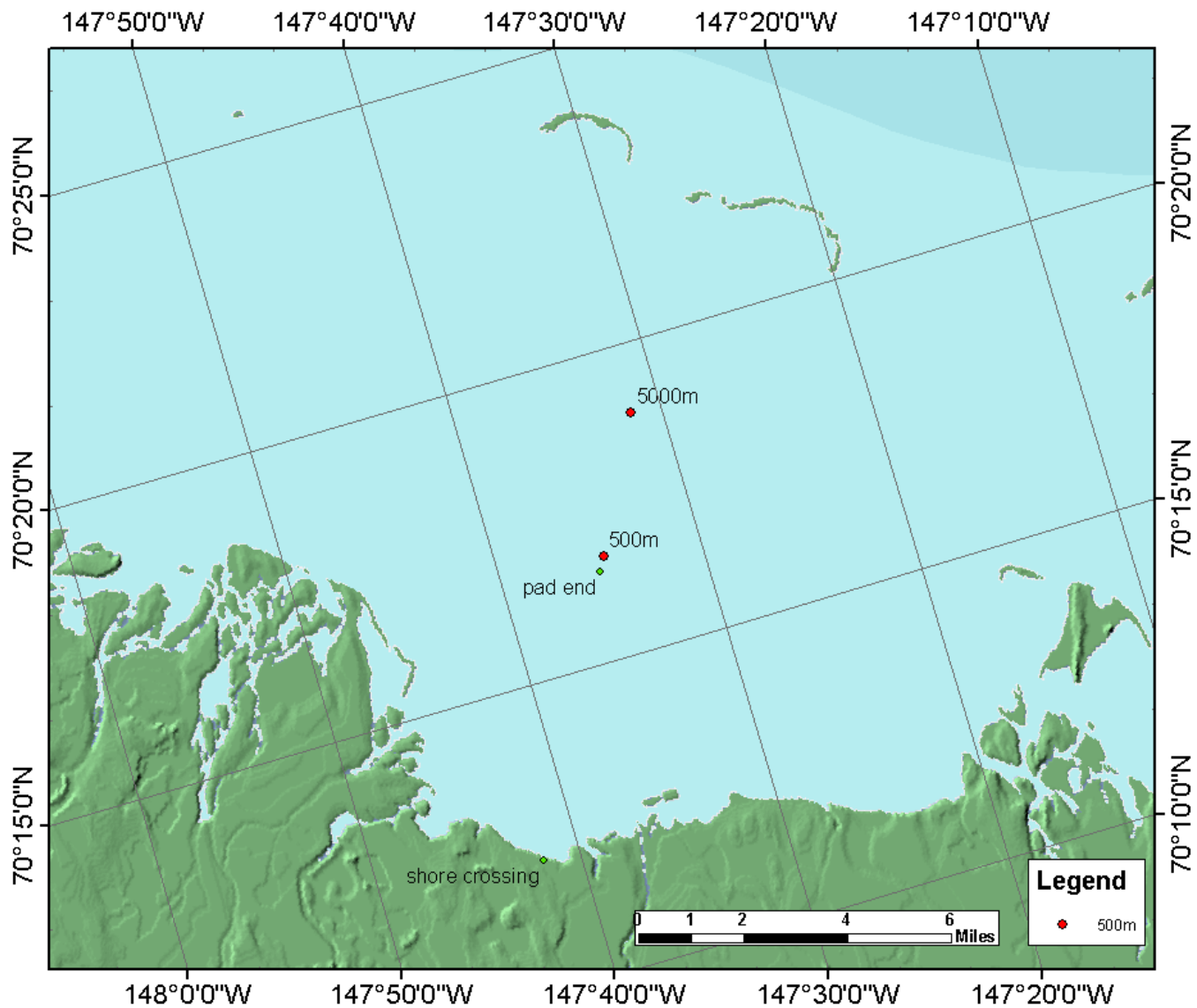


Figure 2 Proposed acoustic recorder deployment locations at 500m and 5000m from the proposed Liberty island location.

### 1.3. Methods - Analysis

PAM recordings will be processed at the end of the season using JASCO's marine mammal detection and classification software. JASCO has performed manual and automated detection of marine mammal vocalizations in data recorded during the Chukchi Sea Environmental Studies Program since 2006, gaining

extensive experience in the detection and classification of the marine mammals that are present in the Beaufort and Chukchi Seas. Our detection capabilities include vocalizations from bowhead, walrus, beluga, ringed seals, bearded seals, ribbon seals, fin whales, humpbacks, killer whales, grey whales and minke whales. Particular attention will be given to the detection of bowhead and beluga whale vocalizations since these are species are important for local subsistence hunting. We will analyze the temporal and spatial patterns of the detected calls. Figure 3 is an example plot showing numbers of bowhead call detections by recorder location (station) as a function of time. The percentage of ice cover at each station is also plotted.

A specialized computing platform operating at about 700 times greater than real-time recording (e.g., 700 h of recorded data could be analyzed in 1 h of computing time) will be used to perform automated detection tasks. A selection of the data will also be processed manually for validation of the automated classifier and for further species identification.

JASCO's automated processing software will also be used to detect and quantify ambient sound levels. A vessel detector in the automated processing software will be used to quantify vessel presence (example shown in Figure 4). Vessel noise is the source of noise from the geohazard survey that is most likely to be detectable beyond the immediate vicinity of the survey. We will be able to characterize the decay of this vessel noise as a function of range. Finally, a statistical assessment of ambient noise conditions will also be computed by the automated software. Percentiles will be computed, as a function of frequency, showing the statistical distribution of ambient sound levels throughout the recordings. An example plot showing statistical distributions of 1/3-octave band ambient sound levels and power spectral density is shown in Figure 5.

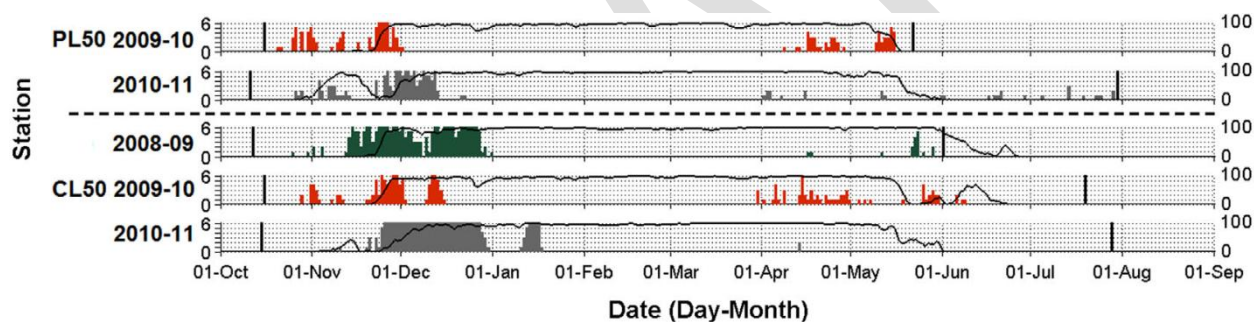


Figure 3 Example plot showing hours-per-day with bowhead call detections, by day and recording station. Black line indicates the percent ice coverage at each station.

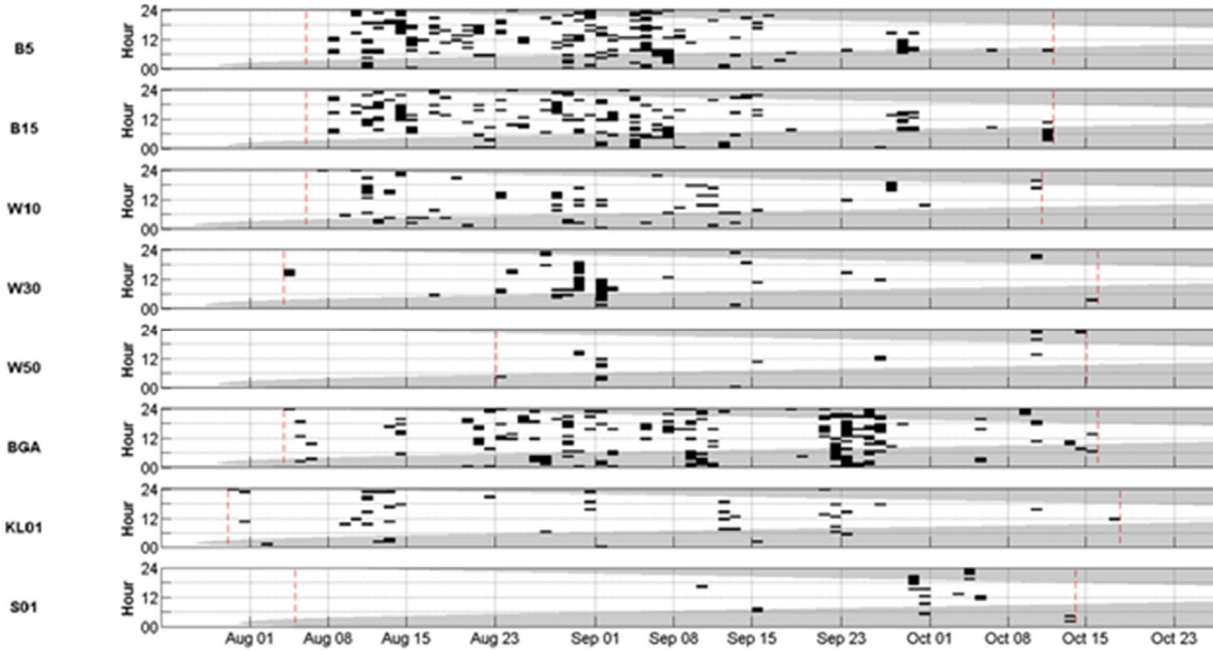


Figure 4 Example plot of vessel detections as a function of location, day and hour. Grey bands indicate hours of darkness. Black bars indicate hours with vessels detected.

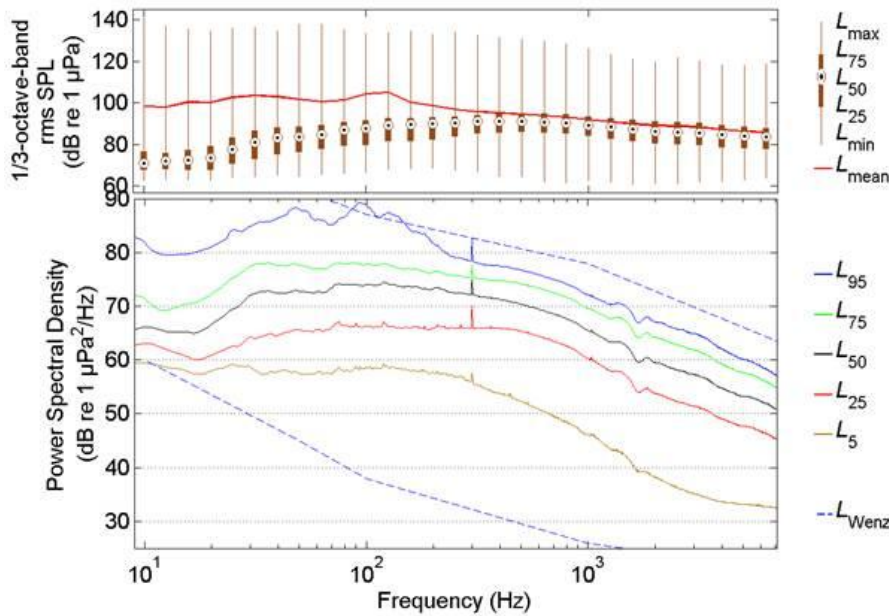


Figure 5 Example plot showing statistical distributions of 1/3-octave band and power spectral density ambient sound levels. Top: 1/3-octave-band rms sound pressure levels. The boxes indicate the first (25%), second (50%), and third (75%) quartiles. The red line indicates the linear mean. Bottom: Exceedance percentiles of ambient noise power spectral density levels (1-min average) over the recording period. The  $N$ th percentile corresponds to the sound level that was exceeded by  $N\%$  of the data.

## **Attachment B**

**2014-2015 Plan of Cooperation Meeting Minutes**

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	Open House		
<b>Meeting Location</b>	Nuiqsut, Alaska		
<b>Meeting Facility</b>	Kisik Community Center		
<b>Date and Time of Meeting:</b>	December 02, 2014 at 6:00 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: John A Barnes (JB)		Hilcorp: William “Bill” Britt (BB)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth “Beth” Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Lottie Evikana		Eunice Pausanna	
Mary Cabinboy		James Taalak	City of Nuiqsut
Edward Nukapigak	Inupiaq Translator	R. Nukapigak	
Clarence Ahnupka		Sara Oyagak	City of Nuiqsut
Cora Tagarook	Nuiqsut	Lucy Nukapigak	
Isaac Nukapigak	AEWC	Vera Tagarook	
Bruce Nukapigak		Dorcas Ahkiviana	
Carolyn Ahkiviana		Dora Ahkiviana	
Billy Oyagak		Dorcas Kittick	
Ryan Oyagak		Wendy Brower	
Kyle Brower		Willie Sielak	
Patrick E.		Annie Lampe	
Clayton Kaigelak		Roxy Oyagak	

<u>Item</u>	<u>Agenda Item</u>		
1.	Invocation by Edward Nukapigak		
2.	Introduction by John Barnes		
3.	Presentation by John Barnes, translated by Edward Nukapigak		
4.	Questions or Comments		
<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	ACS Standards for clean up on broken Ice	John Barnes	January

<b>KEY ISSUES:</b>			
1.	<b>Who is Hilcorp?</b>		
2.	<b>What are we buying?</b> – Endicott, Northstar, Milne Point, Liberty Development		
3.	<b>North Slope Team</b> – Retained 90% of existing field personnel, Experienced Alaskan Support, Transparent and Responsible		
4.	<b>Responsible Development</b>		
5.	<b>Environmental Team</b>		

# HILCORP - NUIQSUT OPEN HOUSE MEETING

## December 2, 2014

6.	<b>Looking Ahead</b> – Milne Point, Northstar, Endicott, Liberty Project
<b>DISCUSSION ITEMS:</b>	
1.	<p><b>Statement by Nuiqsut Resident:</b> “I eat fish, whitefish, make sure you are responsible for your actions.”</p> <p><b>Answer (A): John Barnes (JB) replied,</b> “I eat fish too.”</p> <p><b>Comment (C): by Nuiqsut Resident,</b> “I eat whitefish, I don’t want to eat contaminated fish.”</p> <p><b>A: JB replied,</b> “What I do know, is that for Liberty, it will be similar to North Star and the Cook Inlet, zero discharge, You’re right there should never be a discharge. We will continue to monitor and conduct fish studies. We look forward to more dialog to make sure that these studies are done correctly and that that they are beneficial to you and beneficial to us and done correctly.”</p> <p><b>C: by Nuiqsut Resident,</b> “I eat the walrus, seals but what I love to eat is the whale, that is my favorite food. I don’t want it contaminated.”</p> <p><b>A: JB replied,</b> “That makes a lot of sense.”</p> <p><b>C: by Nuiqsut Resident,</b> “I don’t want a disease from the oil companies.”</p>
2.	<p><b>Statement by Isaac Nukapigak (IN):</b> “I want to thank you for coming in. I am speaking as an individual, a commissioner for the AEWC, and from a private sector. I want to thank you for coming to Nuiqsut and to be noted to the community of your acquisition of the assets that Hilcorp has acquired from BP. Thank you for that effort, I know the challenge. Thank you for knowing and expecting the good neighbor policies put forth that the community supports. It was a two way exchange in the early 1980’s when BP first came in to talk about the first offshore island within the barrier islands. Establishing a good neighbor policy provides assurance that there will not be any mishaps. The Conflict Avoidance Agreement is another venue for us. You are in our front yard. How can we work together to minimize impacts? We know the migration corridor; you’re going to have to work with this community. I hope that you continue the dialog.”</p> <p><b>A: by JB,</b> “If Liberty happens, two things will happen, we will have to find the right cost structure and acceptance from the community.”</p> <p><b>C: by IN,</b> “Man made in a shallow area will affect the bowhead migration.”</p>
3.	<p><b>Statement by IN:</b> “You are a new player; you are going to be rebuked.”</p> <p><b>A: Lori Nelson (LN) replied,</b> “We are happy to hear that you want this dialog.”</p> <p><b>C: by IN,</b> “There will have to be a little give and take.”</p>
4.	<p><b>Statement by Edward Nukapigak (EN):</b> “Hilcorp will be here for some time. We need dialog. My biggest concern is the bowhead whale. If there is an impact to whales they will travel further North up to 45 miles North. If Hilcorp wants to move forward they need to consult with AEWC and the NSB Wildlife Department. We’ve dealt with acoustic monitors during our whaling season.</p> <p><b>A: JB replied,</b> “Thank you for that clarification.”</p> <p><b>C: by EN,</b> “The less that you are in this area, the less of an impact you will have on our whaling. Crowley won’t sign the CAA and they are the biggest interference.”</p>
5.	<p><b>Q: Nuiqsut Resident asked,</b> “What seasons are you working? Year round?”</p> <p><b>A: JB replied,</b> “The existing fields, will be working year round, we will not be drilling at Endicott or Northstar, the new wells are at Milne Point.</p>
6.	<p><b>Q: Nuiqsut Resident asked,</b> “Are you going to repair the pipes and what not?”</p> <p><b>A: JB replied,</b> “We will have an integrity plan that will identify needs for repairs. Similar to the Cook Inlet Plan.”</p>
7.	<p><b>Q: Nuiqsut Resident asked,</b> “What will you do if there is a spill?”</p> <p><b>A: JB replied,</b> “We have contracted Alaska Clean Seas (ACS) to respond to spills. They are equipped.”</p>
8.	<p><b>Q: EN asked,</b> “How will you clean up on ice?”</p> <p><b>A: JB replied,</b> “Worst case is on broken ice, we can share that plan with you. I will get back to you on the ACS standards.”</p> <p><b>C: by EN,</b> “ACS failed on a broken ice exercise with Inupiat observers. I think a lot more dialog needs to happen.”</p>

**HILCORP - NUIQSUT OPEN HOUSE MEETING**  
**December 2, 2014**

9.	<b>Comment by Annie Lampe</b> – “Thank you for coming.” <b>EN translated Annie Lampe’s speech:</b> “Her concerns were for the fish and spills. We have to work together. She has concerns for the beluga. She’s happy that we are here to talk to Nuiqsut. A lot of her concerns are for the wildlife and ocean. Our Colville is not like it used to be over the past 40 years. Something is happening to our fish.”
10.	<b>C: by Nuiqsut Resident,</b> “Before you start this project you need to study the krill the whales eat.”
11.	<b>Statement by EN:</b> “I want us to have a good relationship with Hilcorp because BP took care of us.”

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc.</b>		
<b>Type of Meeting:</b>	Kuukpik Subsistence Oversight Panel – Leadership Meeting		
<b>Meeting Location</b>	Nuiqsut, Alaska		
<b>Meeting Facility</b>	Kisik Community Center		
<b>Date and Time of Meeting:</b>	December 02, 2014 at 2:00 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: John A Barnes (JB)	Hilcorp: William “Bill” Britt (BB)		
Hilcorp: Lori Nelson (LN)	Hilcorp: Elizabeth “Beth” Sharp (BS)		
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>		<b>ORGANIZATION:</b>	
Helen Kasuk (HK)	Kuukpik Subsistence Oversight Panel		
Eli Nukapigak (EN)	Kuukpik Subsistence Oversight Panel		
Bruce Nukapigak (BN)	Kuukpik Subsistence Oversight Panel		
Herbert Ipalook Sr. (HI)	Kuukpik Subsistence Oversight Panel		
<b><u>Item</u></b>	<b><u>Agenda Item</u></b>		
1.	Introductions		
2.	Hilcorp Presentation		
3.	Questions or Comments		
<b><u>Item</u></b>	<b><u>Action Item</u></b>	<b><u>Action By</u></b>	<b><u>Follow up Deadline</u></b>
1.			
2.			
<b>KEY ISSUES:</b>			
1.	<b>Who is Hilcorp?</b>		
2.	<b>What are we buying?</b> – Endicott, Northstar, Milne Point, Liberty Development		
3.	<b>North Slope Team</b> – Retained 90% of existing field personnel, Experienced Alaskan Support, Transparent and Responsible		
4.	<b>Responsible Development</b>		
5.	<b>Environmental Team</b>		
6.	<b>Looking Ahead</b> – Milne Point, Northstar, Endicott, Liberty Project		



# HILCORP

## Kuukpiik Subsistence Oversight Panel Leadership Meeting

DISCUSSION ITEMS:	
1.	<p><b>Question (Q): Eli Nukapigak (EN) asked,</b> “How are you going to improve our air quality? Are you going to improve your infrastructures?”</p> <p><b>Answer (A): Bill Britt (BB) replied,</b> “We have not purchased Prudhoe, our facilities are fairly new and have passed the air quality test.”</p>
2.	<p><b>Q: EN asked,</b> “Arctic traffic is increasing every year. In regards to Northstar monitoring, we have not seen any bowhead whale studies. The whales do not feed in the Northstar area anymore. What studies have you done with Liberty? What mitigation measures have you started for Liberty? That is the heart of whaling. How will you mitigate our whales?”</p> <p><b>A: Beth Sharp (BS) replied,</b> “We are still in the process of discussing mitigation measures.”</p>
3.	<p><b>Q: Panel Member asked,</b> “Have you signed the Alaska Eskimo Whaling Commission’s (AEWC) Conflict Avoidance Agreement (CAA)?”</p> <p><b>A: BB replied,</b> “We fully intend to sign the AEWC CAA.”</p> <p><b>Comment (C): by Panel Member,</b> “Offshore scares us, it is beyond our control.”</p> <p><b>A: JB replied,</b> “We fully intend to put up a bond with AEWC. We would like to continue dialog on what we can do.”</p>
4.	<p><b>Statement by JB:</b> “We have purchased Endicott, Northstar, Milne Point and the Liberty Development.”</p>
5.	<p><b>Q: Bruce Nukapigak (BN) asked,</b> “What are you going to do with waste discharge? We have a zero tolerance for grey water.”</p> <p><b>A: JB replied,</b> “We will have the same environmental standards as before. We will consult with the community and with the NSB on waste handling. We’ve inherited one location at Milne Point for rehabilitation.”</p>
6.	<p><b>Suggestion by Panel Member:</b> “On the Environmental Team slide, add specific areas of expertise.”</p>
7.	<p><b>Q: BN asked,</b> “So your plan is basically to extend the legacy wells?”</p> <p><b>A: JB replied,</b> “Yes, that is correct. We plan to extend the legacy wells in Endicott and Milne Point.”</p>
8.	<p><b>Q: Herbert Ipalook Sr. (HI) asked,</b> “How far along is your development on Liberty?”</p> <p><b>A: JB replied,</b> “It will be a two year permitting process. Then final approval takes around 30 months.”</p> <p><b>A: BB replied,</b> “There will be an EIS, you are right, we are taking existing production and we are extending its life cycle.”</p>
9.	<p><b>Q: HI asked,</b> “Are you using BP’s modules for Liberty?”</p> <p><b>A: JB replied,</b> “We are using smaller truck able modules that will have a small footprint. The modules are similar to the ones used in the Cook Inlet, still winterized, instillation will be quicker.</p> <p><b>C: by HI,</b> “The reason I asked, BP gave us left over lumber, instead of burning it, we reused it.”</p> <p><b>A: JB replied,</b> “Lumber may be available; there will be some plusses from this project.”</p> <p><b>Statement by EN:</b> “There is no lumber at Cross Island. We’ve received mattresses from BP as well. We’ve had to change and adapt to hunt bowhead; we don’t want to give up. Cross Island has been an existing whaling island. We’ve had to maintain communication with oil companies to maintain our subsistence.”</p> <p><b>A: JB replied,</b> “Both sides need to understand both sides. Hilcorp will talk of production and cost, we have a lot of managing to do together. On our next trip, we can bring a production plot.”</p>
10.	<p><b>Q: EN asked,</b> “We have some people who are trained in responding to an emergency. Is there a plan for people to be trained within your company?”</p> <p><b>C: by BN,</b> “We enjoyed our hands on experience with Alaska Clean Seas.”</p> <p><b>A: JB replied,</b> “We can look into the program.”</p> <p><b>C: by BN,</b> “Currently, there is a lack of training.”</p>
11.	<p><b>Q: EN asked,</b> “Have you acquired BP’s Master Plan? Have you made any changes?”</p> <p><b>A: JB replied,</b> “No changes, we haven’t proposed any changes.”</p>

# HILCORP

## Kuukpiik Subsistence Oversight Panel Leadership Meeting

12.	<p><b>Q: EN asked,</b> "Are you planning to continue the offshore studies in regards to the Arctic cisco? We are interested in how many fish go through near Endicott."</p> <p><b>A: BS replied,</b> "We are continuing these studies."</p>
13.	<p><b>Q: EN asked,</b> "Will you continue the studies of bowhead whales near NorthStar?"</p> <p><b>A: BS replied,</b> "Yes, absolutely, we'll get the information to you."</p> <p><b>Q: JB asked,</b> "Is there another venue in which you would like to discuss these studies besides AEWG?"</p> <p><b>A: EN replied,</b> "You will need to meet with the Nuiqsut Whaling Captains."</p> <p><b>A: HI replied,</b> "We like operations done after whaling, no disturbance during whaling. If there is disturbance, the further and longer we will have to be out whaling. Isaac Nukapigak is our commissioner and passes on information."</p> <p><b>Statement by EN:</b> "Impacts will be the biggest assets on both sides oil and subsistence/Nuiqsut residents. A good neighbor policy is hard to go by because we have to meet and communicate. Things may be very frustrating."</p> <p><b>Statement by HI:</b> "As a whaling captain, we've developed an understanding. Should be an interesting meeting tonight if we get a lot of people."</p>
14.	<p><b>Q: EN asked,</b> "Why are you creating two gravel islands for Liberty?"</p> <p><b>A: JB replied,</b> "We would only create one island. The distance was too far beyond drilling capabilities to drill from SDI."</p>
15.	<p><b>Q: HI asked,</b> "If we don't catch a whale within three years of Liberty Island being developed, how will you mitigate us?"</p> <p><b>A: JB replied,</b> "We will need to have more communication."</p>
16.	<p><b>Statement by EN:</b> "Northstar used to be our whaling spot. Same thing will happen to Liberty. The whales feed within 30 miles and hangout in Camden Bay."</p>
17.	<p><b>Q: JB asked,</b> "How deep of waters can the whales travel through?"</p> <p><b>A: Panel Member replied,</b> "The whales can migrate through the barrier islands which are 6 feet in depth."</p> <p><b>C: by JB,</b> "We will have more conversations as to where the Liberty island will be."</p> <p><b>A: Panel Member replied,</b> "People do watch whales from Endicott and from the barrier islands. We do get swells and we have a channel."</p>
18.	<p><b>Statement by LN:</b> "We plan on having a Liberty meeting next month and present this to the Alaska Eskimo Whaling Commission."</p> <p><b>A: EN replied,</b> "We will fight for our rights."</p> <p><b>A: JB replied,</b> "We should have a meeting with the whaling captains; we will call Isaac to set this up."</p>
19.	<p><b>Q: EN asked,</b> "Are you doing a full EIS?"</p> <p><b>A: JB replied,</b> "We are not sure whether it will be another EIS or a SEIS or an EA at this point."</p>



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Anchorage, Alaska 99503  
907-350-9527

01/08/15 | Inupiat Community of Arctic Slope | Introduction Meeting | ICAS Office | Barrow, Alaska  
ICAS Conference call number 18003156338 42271 code

ICAS, Barrow - George Olemaun, Doreen Lampe, George Edwardsen, Rosemary Attungarauk, Fred Miller, Mary Sage, Martha Koonaloak, Point Lay - Celia Attungarauk, Atqasuk - Ethel Burke, Pt. Hope - May Hank, Doreen Ahgeak

Not present: Robert Suvlu, Nuiqsut - Dwayne Hopson, and Matthew Rexford, Pt. Hope Jack Schaeffer, Rachel Riley, Wainwright - Raymond Agvluik Jr.

ASRC - Teresa Imm, Dawn Winalski – NSB Assistant Attorney, Hilcorp: Mike Dunn, Lori Nelson, Kate Kaufman, Beth Sharp, Uum's Consulting, LLC: Ms. Dolly Norton

Call to order: 640pm

Invocation: dolly

702 executive session. 723 out of executive session

**NSB: Dawn Winalski** Assistant NSB Attorney, ICAS joined NSB on the designation of the ringed seal litigation.

**Hilcorp:**

**George Edwardsen:** What kind of privately owned company? Used to be panama Oil Company

**May Hank:** disturbance of noise get closer to mic.

**George Edwardsen:** we are a very good tax shelter. DL: Rama starts at 10, donating to bingo game.

**George Olemaun:** have you hired any local employees from our area? Our people can help find if you got lost.

**Rosemary Attungarauk:** with your renovations are you reducing emissions? With water injection process to increase production you injecting water that creates h2s

**George Edwardsen:** increasing injection your production creates h2s.

**Rosemary Attungarauk** Contamination how are you handling the contaminants,

**Rosemary Attungarauk** Is there transparency for us to look at your increased productions as to what is injected and at what rate? The assessments of your activities, are inadequate to human health for our future generations. It is important for me to see your processes, I opposed the building of the North Star field. The risk continues with us

**May Hank:** does not have the packet.

**George Edwardsen:** heavy oil? You will have to learn to dilute the heavy oil.

**Rosemary Attungarauk** You have signed the CAA?

**Doreen Lampe** good neighbor policy was signed by NSB Mayor and ICAS President where are you with that?

**Mae Hank:** does the Good Neighbor Policy have an agreement with ICAS

Member of ACS, how is your contract with ACS how are you involved with process of a spill? Is your contract being modified with liberty?



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**Rosemary Attungarauk** CAA signing is important to have good transparent to process, need to the fact that we were overlooked is a concern to me, it is very important to us, you need to work with our people and train them, it is important that you work with our generation of family go thru training, we have response for oil spill response, we need to be gainfully employed not just spill response, but other training opportunities for our future generations.

I don't support your liberty project but do appreciate your working with us, I want to know what you are using in your processes and how it will affect our future.

Have you done any work with pipeline safety trust? Safety with pipeline in Washington State.

**Rosemary Attungarauk:** Do you have a good communication process to contact your people, in the event of a spill? Communication with Martha and Doreen about what is being re-injected into the wells.

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	Native Village of Barrow Meeting		
<b>Meeting Location</b>	Barrow, Alaska		
<b>Meeting Facility</b>	Native Village of Barrow Conference Room		
<b>Date and Time of Meeting:</b>	January 12, 2015 at 1:00 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Thomas Olemaun, President (TO)	NVB	Charlie Brower, Manager (CB)	NVB

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		

<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	NVB can provide Subsistence Advisors	TO	
2.	The NVB request communication.	LN	

#### **KEY ISSUES:**

1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>

#### **DISCUSSION ITEMS:**

1.	<b>Statement by Kate Kaufman (KK):</b> "We will be hiring Subsistence Advisors to avoid seal layers and polar bear dens." <b>Comment (C): by Thomas Olemaun (TO),</b> "The Native Village of Barrow can hire SA's as well."
2.	<b>Statement by KK:</b> "As for summer work, we will be out for five days and we will be hiring MMO's."
3.	<b>Statement by TO:</b> "That area is pretty shallow. The NVB request communication."

**HILCORP – NATIVE VILLAGE OF BARROW MEETING**  
**January 12, 2015**

4.	<b>Answer (A): Lori Nelson (LN) replied,</b> “We plan on meeting and presenting at AEWC.”
5.	<b>Statement by Charlie Brower (CB):</b> “No problem during the winter time and spring. They are herding over there. Just stay in compliance.”
6.	<b>Statement by Beth Sharp (BS):</b> “BP is still 50% owner of Liberty. We’ve purchased Northstar, Endicott and Milne Point. We will continue with existing monitoring and studies.”
7.	<b>Statement by TO:</b> “Just keep me in the loop.” <b>A: LN replied,</b> “I’ll keep you in the loop.” <b>C: by CB,</b> “Good to have open communication.” <b>Q: KK asked,</b> “Do you coordinate with the NSB?” <b>A: TO replied,</b> “No sometimes, we are forgotten.”
8.	<b>Statement by CB:</b> “Polar bears are migrating to the east more often.”

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	North Slope Borough Mayor's Office Meeting		
<b>Meeting Location</b>	Barrow, Alaska		
<b>Meeting Facility</b>	North Slope Borough Mayor's Office		
<b>Date and Time of Meeting:</b>	January 12, 2015 at 2:00 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Charlotte Brower, Mayor (CB)	NSB	Lauren Berdow, Attorney (LB)	NSB
Rhoda Ahmaogak (RA)	NSB	Gordon Brower (GB)	NSB
Jacob Adams (JA)	NSB		

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		
<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Contact Native Allotment Owners	LN	
2.	Read the Oooguruk Ordinance	KK	
3.	Provide Financials and Transfer Documents	LN	
4.	Set up a monthly or bi-monthly meeting with the Planning Dept.	KK	
<b>KEY ISSUES:</b>			
1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>		
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>		
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>		
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>		

# HILCORP – NSB MAYOR’S OFFICE MEETING

## January 12, 2015

DISCUSSION ITEMS:	
1.	<b>Statement by Lori Nelson (LN):</b> “We’ve only committed to permitting and stakeholder engagement on Liberty. There is a high chance of not pursuing if there’s a conflict. We have not committed to building. We expect the permitting process to last two years. Do you have any questions, concerns with the transition of ownership from BP? We are a flat, small organization; the people in this room are the owners.”
2.	<b>Statement by Charlotte Brower (CB):</b> “Liberty has been on the books for some time now. When BP informed Commissioner Balash, we weren’t made aware that the transfer documents were about to be signed. I had to ask Commissioner Balash to hold off five days to review the documents. We wanted to review the transitioning documents. We wanted to know why we were not included. By 5 pm that day, we were told other than that, Liberty has its own problems. The planning department can help you with Liberty questions. NSB does not plan to intervene.”
3.	<p><b>Question (Q): Rhoda Ahmaogak (RA) asked:</b> “Where is Hilcorp now? We discussed the boulder patch and studies.”</p> <p><b>Answer(A): Walton Crowell (WC) replied,</b> “We are using the same studies; we are 50% owner of Liberty. BP is still helping. We’ve looked at BPs proposals. We’ve looked into the strudel scours.”</p> <p><b>A: Kate Kaufman (KK) replied,</b> “We’ve just picked up the Liberty Project where BP left off. Hilcorp went back to the original design; Island and pipeline to Badami.”</p> <p><b>Comment (C): by GB,</b> “Protecting the boulder patch, this is an oasis of species. Whatever BP was planning was to protect the boulder patch.”</p> <p><b>A: KK replied,</b> “We expect 24 months of permitting.”</p> <p><b>Q: Jacob Adams (JA) asked:</b> “Is Liberty on a Federal Lease?”</p> <p><b>A: KK replied,</b> “Yes, it is.”</p> <p><b>Q: RA asked,</b> “Explain the boulder patch?”</p> <p><b>A: Beth Sharp (BS) replied,</b> “The boulder patch is off of Foggy Island Bay, it is a rich ecosystem, physically important role in the food chain.”</p> <p><b>A: WC replied,</b> “The boulder patch was located through bathymetry.”</p> <p><b>Q: CB asked,</b> “How far will it be from the island?”</p> <p><b>A: WC replied,</b> “Two to five miles, five miles more condensed.”</p> <p><b>A: KK replied,</b> “In regards to the pipeline, we want go south and minimize the impact.”</p> <p><b>C: by GB,</b> “Ultra extended reach pipeline was proposed by BP, from the island to the boulder patch.”</p> <p><b>A: WC replied,</b> “With this design, we barely will touch the boulder patch.”</p>
4.	<p><b>Q: GB asked,</b> “Being in Federal waters, how do we present this to the NSB Assembly?”</p> <p><b>Q: JA asked,</b> “Will production take place in Federal waters?”</p> <p><b>A: KK replied,</b> “Yes.”</p> <p><b>Q: Loren Berdow (LB) asked,</b> “Would we need to talk to Lisa Murkowski?”</p> <p><b>A: CB replied,</b> “Could be.”</p> <p><b>C: by KK,</b> “I see what you mean about the extended reach.”</p> <p><b>Statement by GB:</b> “For example, CD-4 was a conventional reaching to CD-5. We’ve seen this technology for many years now. If you move it and it becomes a jurisdictional matter. So moving this island a mile is very close to the edge.”</p> <p><b>A: WC replied,</b> “As for the reservoir, it is smaller then what BP was advertising and a high expense on drilling.”</p> <p><b>A: GB replied,</b> “The Assembly will look at the State vs. Federal reservoir.”</p>
5.	<p><b>Q: JA asked,</b> “Your development plan was sent to BOEM?”</p> <p><b>A: KK replied,</b> “Yes, we’ve submitted the plan in December, we expect questions.”</p> <p><b>C: by CB,</b> “I was surprised how soon you came after you filed.”</p>



# HILCORP – NSB MAYOR’S OFFICE MEETING

## January 12, 2015

6.	<p><b>Statement by GB:</b> “The ice island grounded was the original plan.”</p> <p><b>Q: CB asked,</b> “Floating island?”</p> <p><b>A: BS replied,</b> “Similar to Northstar, gravel island.”</p> <p><b>Q: JA asked,</b> “Similar in size to Northstar?”</p> <p><b>A: WC replied,</b> “Slightly larger to accommodate the processing plant. Moves oil quicker, environmentally safer, logistically better and cost effective.”</p>
7.	<p><b>Statement by LN:</b> “We will be conducting subsea studies this summer, gathering samples this winter in March near the Badami ice roads. We will have wildlife observers and will be out for 20 to 25 days.”</p> <p><b>C: by GB,</b> “We’ve approved IHLC and permits for this project.”</p> <p><b>A: KK replied,</b> “Yes, and for this summer, we will be out for five days for bathymetry and floor surface studies.”</p>
8.	<p><b>Q: GB asked,</b> “What will you use as a gravel source? Permits that came in from last year, suggest a more central point.”</p> <p><b>A: WC replied,</b> “Yes, we’ve reduced the amount of gavel need by 63% and moved away from the Native Allotments and river.”</p> <p><b>C: by GB,</b> “Shark Tooth Project, the Borough has a consolidation policy. CPAI approved permit not gravel source. Be aware that there are regional gravel sources that can save you money.”</p>
9.	<p><b>Statement by KK:</b> “We plan to meet more with the Plan of Cooperation. We want to do more of a one on one type of meeting first.”</p>
10.	<p><b>Statement by GB:</b> “As for your geotechnical surveys, be aware of the seal lairs.”</p> <p><b>A: KK replied,</b> “We will work with subsistence advisors.”</p> <p><b>C: by GB,</b> “BP used Charlie Hopson.”</p>
11.	<p><b>Statement by BS:</b> “As part of the IHA, we will conduct studies.”</p> <p><b>C: by LB,</b> “You should meet with the Wildlife Department.”</p> <p><b>KK:</b> “We’ve met with Craig George and spoke with Robert Suydam, which helped us make some of our decisions. “</p> <p><b>Q: BS asked,</b> “Applied for a LOA on polar bears. Are there any concerns? We will be working close with Fish and Wildlife; we will be participating in their FLIRing.”</p> <p><b>C: by LN,</b> “We spoke with Craig George, we fully plan to conduct the research and studies. We don’t want to spend money on studies if it’s not useful.”</p>
12.	<p><b>Statement by GB:</b> “Risk Analysis on Northstar done by AEWC, maybe that ordinance should be revisited. If we audit Northstar there may be dated items.”</p> <p><b>C: by RA,</b> “We are considering an audit of all of our ordinances.”</p> <p><b>Q: BS asked,</b> “What is the process of getting information to you?”</p> <p><b>A: RA replied,</b> “We have inspectors go onsite for routine inspections.”</p> <p><b>A: GB replied,</b> “When there is a difference we want to know if the Master Plan has changed.”</p> <p><b>C: by JA,</b> “They won’t be doing a Master Plan to us, it’s in Federal waters.”</p> <p><b>Q: RA asked,</b> “We need to rezone? Take this to the Assembly?”</p> <p><b>Q: BS asked,</b> “Do you anticipate BOEM not approving?”</p> <p><b>A: LN replied,</b> “There’s a heavy voice on the environmental side in administration. Locally we are receiving support. We had interagency presentation on the Federal level.”</p> <p><b>Q: CB asked,</b> “Is there any way to influence voices with the departments working group? We are concerned about the appointed one who’s living in Hawaii. She is using what she knows on the NSB. You’re in a predicament when I ask BOEM. You see where Duck Island is, 60 polar bears go there during the day.”</p>

**HILCORP – NSB MAYOR’S OFFICE MEETING**  
**January 12, 2015**

13.	<p><b>Q: RA asked,</b> “How close are you to Native Allotments?”</p> <p><b>A: WC replied,</b> “2,000 feet.”</p> <p><b>Q: GB asked:</b> “May be approach them and make them an offer?”</p> <p><b>Q: RA asked,</b> “Whose Native Allotment?”</p> <p><b>A: LN replied,</b> “I’ll have to get back with you on that.”</p> <p><b>C: by RA,</b> “The Planning Commission applies buffers.”</p> <p><b>A: WC replied,</b> “We know there are archeological sites.”</p> <p><b>C: by RA,</b> “Meet with the families.”</p> <p><b>C: by GB,</b> “Read the Oooguruk Ordinance. We don’t have jurisdiction on Native Allotments, but we have jurisdiction on impacts through Title 19, subsistence impacts.”</p>
14.	<p><b>Q: LB asked,</b> “Commissioner Balash, short time, transfer finance, wanted to see financials and transfer documents, can you help?”</p> <p><b>A: LN replied,</b> “Yes, I can look into this.”</p>
15.	<p><b>Statement by KK:</b> “It’s our expectation to work with the NSB. BOEM will facilitate the MOU.”</p> <p><b>A: RA replied,</b> “We want a monthly and bimonthly meeting set up.”</p>
16.	<p><b>Q: CB asked,</b> “Will you be attending AEWC and sign the CAA?”</p> <p><b>A: LN replied,</b> “Yes.”</p>
17.	<p><b>Q: LN asked,</b> “Do you want information delivered to you through the planning department?”</p> <p><b>A: CB replied,</b> “Yes.”</p>

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	North Slope Borough Planning Department Meeting		
<b>Meeting Location</b>	Barrow, Alaska		
<b>Meeting Facility</b>	North Slope Borough Planning Department’s Office		
<b>Date and Time of Meeting:</b>	January 12, 2015 at 4:00 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Rhoda Ahmaogak (RA)	NSB	Gordon Brower (GB)	NSB
Thomas Brower (TB)	NSB	Ralph Burke (RB)	NSB
Quincy Adams (QA)	NSB	Ned Arey Sr. (NA)	NSB
Bart Ahsogeak (BA)			

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		

<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Read Title 19	KK	
2.	Need to meet and present to the Assembly	LN	
3.	Contact Native Allotment Owners	KK	
4.	Schedule regular meetings with the Planning Dept.	KK	
5.	Beth and Rhoda to meet on ordinances and look for outdated information and changes	BS	

#### **KEY ISSUES:**

1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>

# HILCORP – NSB PLANNING DEPT. MEETING

## January 12, 2015

<b>DISCUSSION ITEMS:</b>	
1.	<p><b>Question (Q): Rhoda Ahmaogak (RA) asked, “Have you read Title 19?”</b></p> <p><b>Answer (A): Kate Kaufman (KK) replied, “I am working on it.”</b></p>
2.	<p><b>Statement by RA:</b> “Need to meet and present in front of the Assembly.”</p> <p><b>A: Lori Nelson (LN) replied, “Strictly permitting and stakeholder engagement. We are seeking input; we haven’t committed funds for the project. It is in Federal waters, we are being responsive and transparent. The Plan of Cooperation efforts seek feedback. Walton will talk about the winter and summer Liberty projects. Beth will talk about existing projects at Northstar Endicott and Milne Point.”</b></p>
3.	<p><b>Statement by Walton Crowell (WC):</b> “On March 1<sup>st</sup>, we will follow the Badami ice road, drill holes on the ice corridor to the island and out on the island location. We will have subsistence advisors for seal lairs and polar bear dens. We will be participating in Fish and Wildlife’s FLIRing.”</p> <p><b>Comment (C): by Kate Kaufman (KK), “We are wrapping up the polar bear LOA permit. POC meet with individual groups initially and continuing with communications.”</b></p>
4.	<p><b>Q: Gordon Brower (GB) asked, “Ralph, in resource district map?”</b></p> <p><b>A: Ralph Burke (RB) replied, “Yes, I’ve verified. Not in Federal though.”</b></p>
5.	<p><b>Statement by WC:</b> “As for the summer shallow hazard survey, we will be out there for five days, staying at Endicott and working near the corridor. Focus is not to reduce data; we’ve reduced our scope quite a bit. We are validating archeological data in the corridor providing to SHPO as well. We’ve looked at all of BP’s different scenarios.”</p> <p><b>C: by KK:</b> “I haven’t submitted the summer permits yet. We will have MMO’s on the boat. We want feedback.”</p> <p><b>C: by WC:</b> “We will be conducting acoustic monitoring.”</p>
6.	<p><b>Q: GB asked, “Will you be encountering the boulder patch?”</b></p> <p><b>A: WC replied, “We will go across a low concentration of the boulder patch, near the Outer Continental Shelf.”</b></p> <p><b>Q: GB asked, “Is there a categorization for the boulder patch? Is it categorized to be protected? Wildlife may know.”</b></p> <p><b>A: WC replied, “Yes, the ecosystem is an anomaly.”</b></p> <p><b>C: by GB, “Important information for permitting the pipeline.”</b></p> <p><b>A: KK replied, “Acoustic monitoring near Foggy Island Bay is a part of Shallow Hazard permit.”</b></p> <p><b>Q: GB asked, “Is the purpose to identify sound propagations?”</b></p> <p><b>A: KK replied, “For baseline data.”</b></p> <p><b>C: by GB, “Pioneer may have some information near Oooguruk. Mitigate effects on marine mammals.”</b></p> <p><b>A: Beth Sharp (BS) replied, “We will be monitoring for ambient sounds like whale calls and sound propagation through the boulder patch.”</b></p>
7.	<p><b>Q: GB asked, “Plan of Operation maybe further down the line?”</b></p> <p><b>A: KK replied, “We acquired this in December from BP and submitted the development plan to BOEM on December 30<sup>th</sup>. We have 25 days to deem it permitted. We expect a full blown EIS. I will be the contact.”</b></p> <p><b>Q: GB asked, “Including community life on the boulder patch?”</b></p> <p><b>A: KK replied, “Incorporating all studies that have been done, yes.”</b></p> <p><b>Q: RA asked, “Will you continue studies on the boulder patch?”</b></p> <p><b>A: WC replied, “Yes, will look at the data first.”</b></p>
8.	<p><b>Q: GB asked, “Look at what we did on the extended reach pipeline, in regards to rezone. Requires meeting quite often. What is your schedule?”</b></p> <p><b>A: WC replied, “Not on the laid back schedule.”</b></p> <p><b>C: by KK, “We expect 18-24 months for permitting, third quarter of 2016 we will start moving gravel. BOEM NEPA process is the driver.”</b></p> <p><b>A: WC replied, “We want to be notified by the end of August.”</b></p>

# HILCORP – NSB PLANNING DEPT. MEETING

## January 12, 2015

9.	<p><b>Statement by KK:</b> “Pre-application meetings, rezoning, and Master Plan.”</p> <p><b>C: by RA,</b> “Mitigation Plan, close to Native Allotments.”</p> <p><b>C: by GB,</b> “Could be an update to the Badami Master Plan.”</p> <p><b>A: WC replied,</b> “Miller Energy holds the plan as of January 2015.”</p> <p><b>Statement by GB:</b> “Application for additional information, we will be a part of the agency meetings. Be ready to start looking at the state and NSB side.”</p> <p><b>A: KK replied,</b> “A Memorandum of Understanding will set more for a timeline and schedule.”</p>
10.	<p><b>Q: GB asked,</b> “Have you touched base with Native Allotments?”</p> <p><b>A: KK replied,</b> “No, but have noticed to meet.”</p> <p><b>C: by GB,</b> “Our policies are covered to impacts and mitigation.”</p>
11.	<p><b>Q: KK asked,</b> “What’s the process for rezoning? Does the planning commission recommend it to the assembly?”</p> <p><b>A: GB replied,</b> “Yes, but we haven’t decided what our plan forward is yet. Possibly update to Badami, or Plan of Operations. There are different triggers for an audit like conditional use. Updates and conditional use end at the planning commission. If your island comes closer to shore, then it issues a Master Plan that goes to assembly. This will need to be adopted by Assembly as an ordinance, which could take six to eight months.”</p> <p><b>A: KK replied,</b> “Preferred alternative, hoping for the same result.”</p> <p><b>Statement by Thomas Brower (TB):</b> “Part of the plan is in a conservation district. Has to go to the assembly and go through a public hearing.”</p> <p><b>C: by RA,</b> “It’s just a study.”</p> <p><b>A: GB replied,</b> “Anything offshore is development.”</p> <p><b>A: TB replied,</b> “Studies can be done as long as there are no impacts.”</p>
12.	<p><b>Q: Quincy Adams (QA) asked,</b> “Will the ice get bottom grounded?”</p> <p><b>A: WC replied,</b> “Half way.”</p> <p><b>Q: RA asked,</b> “Will the proposed island float away?”</p> <p><b>A: KK replied,</b> “No floating ice.”</p> <p><b>Q: RA asked,</b> “Will you need big rocks?”</p> <p><b>A: WC replied,</b> “No, rock concrete.”</p>
13.	<p><b>Statement by GB:</b> “Title 19, offshore in compliance. May need to take a full 20 day public review. The winter project will need a 20 day public review and the summer project will need a 20 day review. It is up to Hilcorp to rezone for permit.”</p> <p><b>A: RA replied,</b> “Best to start meeting regularly. Final outcome is a workshop. Point of contact would be Rhoda, Thomas and Gordon.”</p>
14.	<p><b>Q: GB asked,</b> “Resource District Map?”</p> <p><b>A: BS replied,</b> “No.”</p>
15.	<p><b>Statement by RA:</b> “Let us know if you need assistance with speaking with the land owners and Native allotments.”</p> <p><b>Q: BS asked,</b> “As for subsistence impacts, the biggest concern is Native allotments?”</p> <p><b>A: RA replied,</b> “We’ll start getting Wildlife involved with our discussions.”</p>
16.	<p><b>Q: BS asked,</b> “Any concerns with Milne Point, Endicott and Northstar?”</p> <p><b>A: RA replied,</b> “Print the ordinances and sit down to look for outdated information and changes.”</p> <p><b>Q: GB asked,</b> “Are you done transferring your permits?”</p> <p><b>A: KK replied,</b> “Some, not all.”</p> <p><b>Statement by RA:</b> “Whale hazing with Northstar. It’s sufficient now and is a closed issue. Ordinance is still there.”</p> <p><b>A: GB replied,</b> “When AEWC has part of the review, they did an oil spill response analysis. If we had the capacity we would request it.”</p> <p><b>C: by RA,</b> “Right now, it’s impossible to meet that ordinance on whale hazing.”</p> <p>Beth and Rhoda agree to work on ordinances.</p>

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	NSB Wildlife Department and Barrow Whaling Captain's Meeting		
<b>Meeting Location</b>	Barrow, Alaska		
<b>Meeting Facility</b>	Top of The World Hotel Meeting Room		
<b>Date and Time of Meeting:</b>	January 12, 2015 at 12:00 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Dr. Craig George (CG)	NSB Wildlife	Dr. Brian Person (BP)	NSB Wildlife
Crawford Patkotak (CP)	Barrow Whaling Captain	Arnold Brower (AB)	AEWC

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		
<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	None		

#### **KEY ISSUES:**

1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>

#### **DISCUSSION ITEMS:**

1.	<b>Question (Q): Lori Nelson (LN) asked, "How many whales did Barrow get?"</b> <b>Answer (A): Crawford Patkotak (CP) replied, "Eight Whales."</b>
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**HILCORP – NSB WILDLIFE DEPT. &  
BARROW WHALING CAPTAIN'S MEETING  
January 12, 2015**

2.	<p><b>Statement by LN:</b> “We are here today to talk about the Liberty concerns with how operations interact. We’ve purchased a percentage of BP’s holdings. 100% of Northstar, 50% of Milne Point, 100% of Endicott and 50% of Liberty. We are the operator for Liberty. Right now, we are getting input for decision making. We are going through the regulatory and stakeholder process. We will maintain consistency in performance with environmental standards and we’ve retained 90% of BP personnel and grew the environmental team.”</p> <p><b>Comment (C): by Beth Sharp (BS),</b> “Many of us have worked with BP or have transferred from BP. Many of us have been trained the BP way.”</p>
3.	<p><b>Statement by Arnold Brower (AB):</b> “I am concerned about projects near the dock and their expired terms on leases, and usage property.”</p>
4.	<p><b>Statement by LN:</b> “Introduction, as the new owners we will keep the status quo on wildlife studies. Walton is the operations engineer. We have 50% ownership of Liberty. Hilcorp is the operator. We submitted our Development plan to BOEM on December 30<sup>th</sup>. We expect a full EIS. The Liberty project is not fully sanctioned by Hilcorp. Right now we are checking with the stakeholders and regulators to see if this is even feasible. We are in the beginning stages of the project. We will come back for more meetings and collect data, it’s part of the permitting.”</p>
5.	<p><b>Q: Craig George (CG) asked,</b> “Will you be conducting seismic?”</p> <p><b>A: Kate Kaufman (KK) replied,</b> “No seismic.”</p>
6.	<p><b>Statement by Walton Crowell (WC):</b> “We are going out on the ice for 20 to 25 days off the Badami ice road to conduct a geotechnical survey. This summer we will conduct a shallow hazard survey.”</p>
7.	<p><b>Q: AB asked,</b> “Have you worked with the state on the three miles?”</p> <p><b>A: WC replied,</b> “Yes, we have also worked with the Corp of Engineers and the North Slope Borough.”</p>
8.	<p><b>Q: AB asked,</b> “How long will your summer work last?”</p> <p><b>A: Hilcorp Representative replied,</b> “Five days of data collecting.”</p>
9.	<p><b>Q: AB asked,</b> “Will you conduct seismic this summer?”</p> <p><b>A: Hilcorp representative replied,</b> “No seismic this summer.”</p>
10.	<p><b>Q: CG asked,</b> “How deep is the water depth in which you will be in?”</p> <p><b>A: WC replied,</b> “19 feet at the island. 40% of the pipeline.”</p>
11.	<p><b>Statement by CG:</b> “There are no whales in that area. They rarely go in the barrier islands.”</p>
12.	<p><b>Statement by AB:</b> “We do get white fish from there. These fish do migrate from Cross Island.”</p> <p><b>A: BS replied,</b> “We are not changing any of the studies that BP has done. We are continuing to collect data.”</p>
13.	<p><b>Q: AB asked,</b> “Will you develop the shoreline?”</p> <p><b>A: BS replied,</b> “We will collect bioacoustics data this summer.”</p> <p><b>Q: CG asked,</b> “Who will be doing your acoustics?”</p> <p><b>A: Hilcorp Representative replied,</b> “JASCO.”</p> <p><b>C: by AB,</b> “Envy of the market.”</p>
14.	<p><b>Statement by WC:</b> “This project is not fully sanctioned. There are a lot of steps. There are a lot of factors.”</p> <p><b>C: by KK,</b> “We anticipate 18-24 months of permitting.”</p>

**HILCORP – NSB WILDLIFE DEPT. &  
BARROW WHALING CAPTAIN'S MEETING  
January 12, 2015**

15.	<p><b>Q: CG asked,</b> "We encourage people to use the existing infrastructure. I assume you will be using the Badami pipeline?"</p> <p><b>A: WC replied,</b> "Yes, a straight tie in."</p> <p><b>Q: BP asked,</b> "How deep will you be trenching the pipeline?"</p> <p><b>A: WC replied,</b> "13 feet, we will over dig. We will have a pipe in pipe design. The height of the pipeline above the ground will be 7.5 feet. The height of the Northstar pipeline is closer to 8 feet."</p> <p><b>Q: CG asked,</b> "Have you had problems with pigging?"</p> <p><b>A: WC replied,</b> "The assembly was the main issue. "</p> <p><b>C: by CG,</b> "From the wildlife perspective, that's a big deal."</p> <p><b>A: WC replied,</b> "Pipe in pipe design."</p> <p><b>Q: BP asked,</b> "Will you be monitoring?"</p> <p><b>A: WC replied,</b> "Yes."</p> <p><b>Q: CG asked,</b> "Staggering construction?"</p> <p><b>A: WC replied,</b> "No, not the subsea construction, that's why we are going a little bit deeper. The erosion rate is 1 to 2 ½ feet per year."</p> <p><b>Q: AB asked,</b> "Does the area have a flat bottom?"</p> <p><b>A: WC replied,</b> "Yes, generally flat. Gathering more information this summer."</p>
16.	<p><b>Q: CG asked,</b> "Where is the boulder patch?"</p> <p><b>A: BS</b> showed a map of where the boulder patch is located</p>
17.	<p><b>Statement by KK:</b> "Charlie Hopson will help map out seal lairs."</p>
18.	<p><b>Q: AB asked,</b> "I haven't seen any reports about the buried pipe at Northstar. Has this been eroding? Have there been any changes?"</p> <p><b>A: WC replied,</b> "Every year, we compare the sea floor and the pipe floor. We are looking for strudel scour."</p> <p><b>Statement by AB:</b> "Our beach will erode and stretch out like floating erosion. Changes our shoreline. We work with a cooperative agreement through AEWC. We would like it if you signed the CAA."</p>
19.	<p><b>Q: BS asked,</b> "Are there other agreements with whaling captains?"</p> <p><b>A: CP replied,</b> "The Barrow Whaling Captains would like to see more cooperation, including agreements for GPS and Satellite phones."</p> <p><b>Q: BS asked,</b> "Is that good or disruptive?"</p> <p><b>A: CP replied,</b> "Useful."</p> <p><b>Q: BS asked,</b> "You would be open for feedback?"</p> <p><b>A: CP replied,</b> "Yes, we are open to engage more. The cost of the hunt is expensive. If we can make it easier, right now would be the time to engage."</p>



<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	Alaska Eskimo Whaling Commission Meeting		
<b>Meeting Location</b>	Barrow, Alaska		
<b>Meeting Facility</b>	Top of the World Hotel		
<b>Date and Time of Meeting:</b>	January 13, 2015 at 8:00 am		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Charlie Hopson (CH)	AEWC	Harry Brower (HB)	AEWC

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		

<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Provide a timeline to the whaling captains during the AEWC Mini-Convention	LN	
2.	Charlie Hopson to submit a proposal.	CH	

#### **KEY ISSUES:**

1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>

#### **DISCUSSION ITEMS:**

1.	<b>Statement by Charlie Hopson (CH):</b> "I have a lot of background on Liberty, 20 years. I have done the ice studies, manned all of the gun ships for BP. I've worked with Harry at AEWC."
2.	<b>Kathryn Kaufman (KK)</b> shows Charlie where the proposed island is. <b>Question (Q):</b> CH asked, "Is that close?" <b>Answer (A):</b> KK replied, "Five and a half miles." <b>Comment (C):</b> by Walton Crowell (WC), "We've chosen the route with the least amount of impacts."

# HILCORP - AEW C MEETING

## January 13, 2015

3.	<p><b>C: by CH:</b> "We've agreed on this project because this is inside the barrier islands. I am worried about the boulder patch."</p> <p><b>A: Lori Nelson (LN) replied:</b> "Yes, we've had a lot of discussion about the boulder patch."</p>
4.	<p><b>Q: CH asked,</b> "What are your intentions? Underground pipeline?"</p> <p><b>A: WC replied,</b> "Yes, subsea pipeline."</p> <p><b>Q: CH asked,</b> "This is a shallow area?"</p> <p><b>A: WC replied,</b> "Yes, 19 feet of water."</p> <p><b>Q: CH asked,</b> "How deep will the pipeline be?"</p> <p><b>A: WC replied,</b> "13 feet."</p> <p><b>C: by CH,</b> "If it's safe, it's good."</p>
5.	<p><b>Q: HB asked,</b> "So it's just outside the boulder patch?"</p> <p><b>A: Beth Sharp (BS) replied,</b> "Yes."</p> <p><b>A: WC replied,</b> "There is one spot that will be going through a low concentration of the boulder patch."</p> <p><b>C: by CH,</b> "I can point out the boulder patch."</p>
6.	<p><b>Q: CH asked,</b> "Did you purchase Northstar?"</p> <p><b>A: BS replied,</b> "Yes, and I am the contact for wildlife studies."</p> <p><b>C: by KK,</b> "We would definitely like to talk to you more about the project because you have a wealth of knowledge."</p>
7.	<p><b>Q: CH asked,</b> "What are your plans for the noise around Nuiqsut Whaling?"</p> <p><b>A: BS replied,</b> "This summer we are doing a geohazard survey to monitor how much noise we are making and monitor how many whales and marine mammals pass through."</p> <p><b>Q: CH asked,</b> "Who's working for you?"</p> <p><b>A: KK replied,</b> "JASCO, we are studying how the construction noise affects marine mammals."</p>
8.	<p><b>Q: CH asked,</b> "When will construction start?"</p> <p><b>A: LN replied,</b> "We have 18 to 24 months of permitting."</p> <p><b>C: by HB,</b> "A Timeline would be good to show the whaling captains."</p> <p><b>A: WC replied,</b> "We are looking at the winter 2017 to start construction. Next winter we install the subsea pipeline."</p>
9.	<p><b>Statement by KK:</b> "We've submitted our permit to BOEM. It will go through the NEPA process with a full EIS. This summer, we are just conducting shallow hazard work."</p> <p><b>C: by WC,</b> "We've conducted an analysis of the previous studies, as to not duplicate efforts."</p> <p><b>C: by KK,</b> "We are doing the boreholes this spring. We are interested in the communities' concerns about that."</p>
10.	<p><b>C: by HB,</b> "Biggest concern is the seal lairs."</p> <p><b>A: KK replied,</b> "We've worked with Golder and Associates; they've mentioned your name."</p> <p><b>C: by CH,</b> "I have a lot of qualified people to work."</p> <p><b>Q: KK asked,</b> "Do you have someone to help with Subsistence Advisors?"</p> <p><b>A: CH replied,</b> "I am the guy who goes out with the Subsistence Advisors."</p> <p><b>C: by HB,</b> "Charlie is a good guy for this kind of work."</p> <p><b>Q: WC asked,</b> "Who do I contact for a proposal?"</p> <p><b>A: CH replied,</b> "My partner, Steve Kronick and he can write the proposal. I am willing to work with you and AEW C."</p>
11.	<p><b>Q: HB asked,</b> "When do you plan to start work?"</p> <p><b>A: WC replied,</b> "March 1<sup>st</sup> for 22 days."</p>
12.	<p><b>Q: HB asked,</b> "Will you be doing any other community meetings?"</p> <p><b>A: WC replied,</b> "Yes, Nuiqsut and Kaktovik."</p> <p><b>C: by HB,</b> "It's important to meet with and build relationships in the communities. Archie Ahkviana in Nuiqsut is a good person to meet."</p>
13.	<p><b>Statement by LN,</b> "Umiat has an established MSA with us."</p> <p><b>Q: CH asked,</b> "That would be good. What are you doing at Milne Point?"</p> <p><b>A: LN replied,</b> "We are the 50% owner and operator. Northstar, 100% owner and operator."</p> <p><b>C: by CH,</b> "Said in public, I can clean up 70% of oil on ice in all seasons. Steve and I also have a partnership with Kuukpik."</p>

## HILCORP - AEWG MEETING

January 13, 2015

14.	<p><b>Statement by KK</b>, "This summer we are looking for MMOs." <b>A: CH replied</b>, "We have MMOs." <b>C: by WC</b>, "We are looking for 3 MMOs." <b>C: by BS</b>, "NMFS has specific training for MMOs." <b>A: CH replied</b>, "All our folks are trained and can be trained. MMOs can do all the data collecting work."</p>
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<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	Native Village of Nuiqsut (NVN) Meeting		
<b>Meeting Location</b>	Nuiqsut, Alaska		
<b>Meeting Facility</b>	Native Village of Nuiqsut Office		
<b>Date and Time of Meeting:</b>	January 13, 2015 at 1:30 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Margaret Pardue (MP)	NVN	Joseph Akpik (JA)	NVN
Hazel Kunaknana (HK)	NVN	John Nicholls Sr. (JN)	NVN
Martha Itta (MI)	NVN		

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		

<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Change degrees on the maps to townships and sections	WC	
2.	The NVN request communication	LN	
3.	Present fish studies	BS	
4.	MI requested an email when studies begin in March.	LN	

#### **KEY ISSUES:**

1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>

#### **DISCUSSION ITEMS:**

1.	<b>Statement by Lori Nelson (LN):</b> "We have not committed to moving forward with Liberty. We've submitted the Development plan to BOEM."
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# HILCORP – NATIVE VILLAGE OF NUIQSUT MEETING

## January 13, 2015

2.	<b>Statement by Walton Crowell (WC):</b> "We will be conducting winter and summer studies this year."
3.	<b>Question (Q): by a Native Village of Nuiqsut (NVN) Representative,</b> "Is the island there?" <b>Q: by a NVN Representative,</b> "Is this different from Shell?" <b>Answer: Hilcorp Representative replied,</b> "No, the island is not there. And yes this is different from Shell. Hilcorp is the operator."
4.	<b>Q: Margaret Pardue (MP) asked,</b> "With pipe, how safe in the month of March?" <b>Q: John Nicholls Sr. (JN) asked,</b> "Will you affect the whales?" <b>A: WC replied,</b> "The pipe, no disturbance." <b>Comment (C) by Kate Kaufman (KK):</b> "Soil testing will happen during winter, no disturbance." <b>C: by LN,</b> "In regards to whaling, we will communicate and cooperate."
5.	<b>Q: Martha Itta (MI) asked,</b> "Will this be equivalent to the Gulf of Mexico?" <b>A: LN replied,</b> "We aren't associated with BP other than half owner. The reservoir will not be the same amount of spill."
6.	<b>Q: Hazel Kunaknana (HK) asked,</b> "How big is the island?" <b>A: KK replied,</b> "9 acres, similar to Northstar."
7.	<b>Q: HK asked,</b> "When will you start the island?" <b>A: KK replied,</b> "We just developed the plan and submitted it, will take two years of studies and permits."
8.	<b>Q: MI asked,</b> "What is your restoration plan? Our rivers and waters are shallow. Our subsistence users are struggling." <b>A: LN replied,</b> "That's why I'm glad we are participating in a full study."
9.	<b>Statement by MI:</b> "Our lives are in trouble, when we are stranded in waters and rivers. We are creating a road project to have a straight access to the dock at the Colville channel. We are having setbacks, waiting for gravel."
10.	<b>Statement by Joseph Akpik (JA):</b> "Change degrees on the map to sections and townships. I can see Native allotments in the way of your project. Is someone studying the currents? Inside and outside the barrier islands? I'd like this addressed in the EIS. Wind shift, water changes, currents change. Cisco fish migration changes. This is our way of life. Currents have been missed in impact statements."
11.	<b>Q: MI asked,</b> "What studies will you be doing?" <b>A: BS replied,</b> "Open water work, with acoustic data. Measuring the sounds of the work we are doing. Collecting ambient sounds in Foggy Island Bay. Similar to monitors at Northstar." <b>A: LN replied,</b> "We are also inheriting a lot of the studies conducted by BP."
12.	<b>Q: HK asked,</b> "Will you be looking for seal lairs?" <b>A: KK replied,</b> "Yes, we will have a subsistence advisor to watch for seal lairs."
13.	<b>Statement by Beth Sharp (BS):</b> "We will do flights to detect polar bear dens. Another flight will happen this month. We will avoid polar bears and seal lairs."
14.	<b>Statement by JA:</b> "This is the path of the cisco fish. A lot of seals will be there." <b>A: BS replied,</b> "BP has funded the studies of the qaaqtaq; we will continue to study the fish." <b>C: by MP,</b> "BP has not talked to us about the studies." <b>A: BS replied,</b> "I would like to meet with the president to talk about fish studies."
15.	<b>Q: MI asked,</b> "Who is handling the permitting?" <b>A: LN replied,</b> "Hilcorp has filed with BOEM, Corp of Engineers, Federal, State of Alaska and NSB."
16.	<b>Statement by HK:</b> "Our biggest concern is communication. CPAI leaves Native Village of Nuiqsut out. We don't hear about it until it happens. We need communication." <b>A: LN replied,</b> "Will provide info if requested, we are still learning about the project. We came in the fall for community meetings. The one on one meetings work. I will send out a mailer with the project information." <b>A: BS replied,</b> "In the meantime, you can contact us." <b>C: by HK,</b> "Leave your cards."
17.	<b>Statement by WC:</b> "We want to talk about the summer work. In July for about 5 to 7 days." <b>Q: MP asked,</b> "Will this irritate the animals?" <b>A: BS replied,</b> "The sonar, low decibels, in shallow water is quieter, the impacts are low."

# HILCORP – NATIVE VILLAGE OF NUIQSUT MEETING

## January 13, 2015

18.	<b>Statement by KK:</b> “We will sign the CAA.” <b>Q: MP asked,</b> “Who are you hiring through?” <b>A: KK replied,</b> “We are taking proposals.”
19.	<b>Q: HK asked,</b> “Only studies for now?” <b>A: LN replied,</b> “Yes.”
20.	<b>Q: MI asked,</b> “When do you receive your approvals?” <b>A: LN replied,</b> “We are still working on getting approvals from the NSB and the state.” <b>A: KK replied,</b> “The same work was done on a larger scale by BP. Ours is on a smaller scale.”
21.	<b>Statement by MI:</b> “We are bombarded with Federal and State Agencies. We know the processes. There’s a lot of strife in the communities. I want you to keep your word on communications.” <b>Q: KK asked,</b> “Do you like meeting like this or do you prefer community meetings?” <b>A: MI replied,</b> “We like both, community members have a lot of traditional knowledge. The last few years, we’ve had a lot of hunting concerns. Hunters wanted to shoot down helicopters.” <b>A: BS replied,</b> “We will do our best on communicating and if you need information, please email.”
22.	<b>Statement by JA:</b> “I would like to see a fisherman on the east side of these projects, the corridor. This is the real cisco study. The current carries the fish. Migration begins at the McKenzie River.” <b>A: BS replied,</b> “The fish studies, I can present to you.”
23.	<b>Q: JA asked,</b> “Do you have a camp out at Badami?” <b>A: BS replied,</b> “No.”
24.	<b>Q: JA asked,</b> “What’s going on the east side?” <b>Q: BS asked,</b> “We are operators of Milne Point, Endicott and Northstar. Do you have any concerns on polar bears?” <b>A: by NVN Representative,</b> “Only when a nuisance.”
25.	<b>Q: MP asked,</b> “When do you plan on building Liberty?” <b>A: WC replied,</b> “Winter 2017, we will build the island. 2018, we will build the subsea pipeline.”
26.	<b>Q: JA asked,</b> “20,000 barrels per day?” <b>A: WC replied,</b> “BPs numbers are higher than ours, we project it will be similar to Endicott.” <b>C: by JA,</b> “Big investment in the barrier islands.” <b>A: WC replied,</b> “That’s the thing, cost. We may walk away from this project.”
27.	<b>Q: JA asked,</b> “Has there been seismic?” <b>A: WC replied,</b> “Yes.”
28.	<b>Q: JA asked,</b> “Why so far? Why not closer?” <b>A: KK replied,</b> “We are positioned right above the reservoir.”
29.	<b>Q: JA asked,</b> “The hole is silty, sandy and risky.” <b>A: KK replied,</b> “Shallow hazard testing, solid is conclusive, fairly conventional drilling process.” <b>C: by JA,</b> “I can imagine at the end of the barrier islands, it is silty and sandy.” <b>A: KK replied,</b> “Drilling muds will be re-injected. No waste discharge.” <b>Q: JN asked,</b> “What if you can’t put it back down?” <b>A: KK replied,</b> “We’d have to contain the waste and bring to Prudhoe Bay for disposal.”
30.	<b>Q: JA asked,</b> “No directional drilling?” <b>A: WC replied,</b> “No, down and slightly deviated.”
31.	<b>Q: BS asked,</b> “Have you received acoustic data from Northstar?” <b>A: MI replied,</b> “I would very much like to see those reports as a non-profit. We do have all the traditional knowledge, the reason why we request the reports are there is a lack of trust.”
32.	<b>Q: MP asked,</b> “When do you start the studies?” <b>A: LN replied,</b> “March.” <b>Q: MI asked,</b> “Can you email us to inform us when you start?” <b>A: Hilcorp Representative replied,</b> “Yes.”

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	Nuiqsut Whaling Captain's Meeting		
<b>Meeting Location</b>	Nuiqsut, Alaska		
<b>Meeting Facility</b>	Kuukpik Hotel		
<b>Date and Time of Meeting:</b>	January 13, 2015 at 12:00 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Isaac Nukapigak, Commissioner (IN)	Nuiqsut Whaling Captain	Edward Nukapigak (EN)	Nuiqsut Whaling Captain
Herbert Ipalook (HI)	Nuiqsut Whaling Captain	Jimmy Oyagak (JO)	Nuiqsut Whaling Captain
Archie Ahkiviana (AA)	Nuiqsut Whaling Captain		

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		
<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Nuiqsut Whaling Captain's requested communication		
2.	Whaling Captains requested a separate agreement for Liberty.		
3.	IN requested information on sonar and decibels regarding fish impacts.	WC	
<b>KEY ISSUES:</b>			
1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>		
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>		
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>		
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>		

# HILCORP – NUIQSUT WHALING CAPTAINS MEETING

## January 13, 2015

DISCUSSION ITEMS:	
1.	<b>Statement by Lori Nelson (LN):</b> “We’ve filed our development and production plan with BOEM. We are just committed to permitting and stakeholder engagement. Our interests are in the survey this spring and our shallow hazard studies this summer. We are taking this step by step; this is pending our success on regulatory areas.”
2.	<b>Statement by Walton Crowell (WC):</b> Pointing to the Liberty Map, “We will be conducting our geotechnical survey on the pipeline corridor. We need this information for the design to go deeper. We will begin this survey on March 1 <sup>st</sup> . We will have a wildlife observer to detect for seal lairs.” <b>Question (Q): Archie Ahkiviana (AA) asked,</b> “Are you just getting your core samples? No mud?”
3.	<b>Q: AA asked,</b> “How deep from the sea floor?” <b>A: WC replied,</b> “8 feet.” <b>Q: Edward Nukapigak (EN) asked,</b> “Five miles out?” <b>A: WC replied,</b> “Yes.” <b>Q: EN asked,</b> “Wouldn’t it be easier to come closer to shore? Migrations of marine mammals are in the barrier islands. Marine mammals travel between Cross Island and West Dock when it’s snowing. It is rare for Beluga to come. Walrus are now inside the Barrier Islands. Why will Liberty Island be 5 miles out and 20 feet deep? Where is the reservoir?” <b>A: Kate Kaufman (KK) replied,</b> “Close to the island.”
4.	<b>Q: EN asked,</b> “Will it be a vertical well?” <b>A: KK replied,</b> “Yes, vertical with a small amount of directional drilling.”
5.	<b>Q: Isaac Nukapigak (IN) asked,</b> “How many acres will the island be?” <b>A: WC replied,</b> “9 acres.”
6.	<b>Q: IN asked,</b> “How many wells?” <b>A: KK replied,</b> “Up to 16.” <b>Q: IN asked,</b> “Stand alone?”
7.	<b>Statement by KK:</b> “A processing plant will be built on the island.” <b>Q: IN asked,</b> “Why?” <b>A: WC replied,</b> “Because of the boulder patch. We won’t affect the ecosystem negatively.”
8.	<b>Statement by KK:</b> “The pipeline will have a pipe in pipe design and will be subsea.”
9.	<b>Statement by Herbert Ipalook (HI):</b> “That’s where we start getting fish.” <b>Q: HI asked,</b> “Will you shut down for whaling?” <b>A: IN replied,</b> “They will not shut down for whaling.” <b>A: KK replied,</b> “We are looking at mitigation measures.”
10.	<b>Q: IN asked,</b> “What other options are there for the processing plant?” <b>A: KK replied,</b> “To tie into Endicott, but it goes through the boulder patch.” <b>C: by EN:</b> “The other option was to tie into Northstar.” <b>C: by IN:</b> “They screwed up and are in litigation.”
11.	<b>Statement by LN:</b> “Beth is working on the acoustic studies. Measuring ambient sounds in Foggy Island Bay and picking up marine mammal sounds.” <b>Q: EN asked,</b> “How far will you deploy?” <b>A: BS replied,</b> “500 feet from the island and then again at 5,000 feet from the island.” <b>A: KK replied,</b> “Summer sonar surveys will last 5-10 days. We will be scanning the sea floor, mapping potential archeological sites and listening for bioacoustics.”
12.	<b>Q: EN asked,</b> “How many vessels?” <b>A: WC replied,</b> “Just one 40 footer to get in the shallow areas.”
13.	<b>Q: EN asked,</b> “When you start how many vessels will you have?” <b>A: WC replied,</b> “Similar to Northstar, some hover craft and some barges.”



# HILCORP – NUIQSUT WHALING CAPTAINS MEETING

## January 13, 2015

14.	<p><b>Q: AA asked,</b> "Once you start, the traffic will increase?"</p> <p><b>Statement by IN:</b> "I think you're thinking too fast. Your permits are not approved. You still have to meet with us half way. You own 50% of Northstar. Will you inherent the good neighbor policy and mitigation measures? Whaling has been our Cross Island. I want commitment to defray our whaling cost. I want commitments that they will take the lead on whaling costs. There needs to be mitigation."</p>
15.	<p><b>Q: HI asked,</b> "My voice was heard at AEWC. Will you sign the CAA?"</p> <p><b>Q: LN asked,</b> "Where is the gap? What is the contribution from BP?"</p> <p><b>A: IN replied,</b> "They have taken the lead, last year, \$179,000 just to Nuiqsut. We don't share with the other communities or AEWC."</p> <p><b>A: KK replied,</b> "We are just starting."</p> <p><b>C: by IN,</b> "You can speculate."</p> <p><b>Statement by EN:</b> "This is our land, not Barrow, not Kaktovik."</p> <p><b>Statement by AA:</b> "We don't like people coming in and telling us what they're going to do."</p> <p><b>C: by HI,</b> "It's good to talk to the whaling captains."</p> <p><b>C: by LN,</b> "We completely understand that you feed the community."</p> <p><b>Statement by IN:</b> "Lease Sale, discovery of Northstar. Nuiqsut made a statement. Based on how we work on mitigation. AES did not speak."</p> <p><b>Statement by EN:</b> "We didn't see any whales out at Northstar after it was developed. Next season we moved to Cross Island. Narwhal is where I hunt. We weren't told during whaling season. I had seen drilling mud and noise out there at Jones Island. When it happened, we moved away from industry. When we moved away, industry moved in. Shell Oil and Northstar. With all that noise it can affect the whales and marine mammals."</p>
16.	<p><b>Statement by AA:</b> "The further you go out with your little boat it will be unsafe."</p> <p><b>A: LN replied,</b> "Your safety is our concern. That is why we are meeting to discuss this one on one."</p>
17.	<p><b>Statement by EN:</b> "It started on the original agreement, between Nuiqsut Whalers and Northstar, called the CAA. The Liberty needs a separate agreement. This island needs to have studies and observations. We need Michael Galginaitis. His contracts up and needs to be renewed."</p> <p><b>Statement by HI:</b> "What we have done with Mike Galginaitis is history, Mike provided documents we expect more development in the next decade. You'll grow stronger and we will grow stronger. We've been pushed and we are starting to push back."</p> <p><b>Q: IN asked,</b> "There is no way they can move us from Cross Island, it's historical. We've seen whales within the barrier islands. When you start putting platforms, are the animals still going to be there? How far will we need to travel?"</p> <p><b>Statement by AA:</b> "You are moving in when the whales move into the regular route. You are going to deflect them. It took ten years for us to get a whale after Northstar. You will need to help and mitigate with the Nuiqsut Whalers. We have a community and families to feed. We need to whale."</p>
18.	<p><b>Q: WC asked,</b> "How many whales can you get?"</p> <p><b>A: EN replied,</b> "Four."</p>
19.	<p><b>Statement by IN:</b> "This is the first step. Hilcorp needs to take the lead for this project to move forward, you need to keep your promise. You need this body and this community. If we don't work together, we will be an obstacle."</p>
20.	<p><b>Q: Jimmy Oyagak (JO) asked,</b> "How far can you go with a directional rig?"</p> <p><b>A: IN replied,</b> "25,000 feet max."</p>
21.	<p><b>Q: LN asked,</b> "Hilcorp has taken over BP's mitigation plan. We will be at AEWC and we will be signing the CAA. Are there any other opportunities to support? Lumber? I am the contact for support opportunities."</p> <p><b>A: HI replied,</b> "Yes we need lumber."</p> <p><b>A: EN replied,</b> "Our cabins are shrinking, our captains are expanding, and we need wood. In regards to Camden Bay, the whales are now feeling near Narwhal. Narwhal is becoming a common feeding ground."</p>

# HILCORP – NUIQSUT WHALING CAPTAINS MEETING

## January 13, 2015

22.	<p><b>Q: LN asked,</b> "How do you bring whales back to Nuiqsut?"</p> <p><b>A: IN replied,</b> "We are 75 miles from Cross Island. That's \$300-400 of gas per trip. So we section up the whale and industry helps. It's called an emergency towing under the CAA. This helps us get done as fast as possible so industry can get back to work and it's a safety issue for industry. If we leave parts of the whale, polar bears will come."</p> <p><b>Q: WC asked,</b> "Is it legal for a commercial vessel to pull a whale?"</p> <p><b>A: IN replied,</b> "Yes, it is legal and in the CAA in case of an emergency."</p> <p><b>Q: BS asked,</b> "Was it an ACS boat?"</p> <p><b>A: EN replied,</b> "Yes."</p> <p><b>A: IN replied,</b> "That's why we established the 501(c) 3, this helps us whale quickly and get out of the way."</p>
23.	<p><b>Q: LN asked,</b> "Are you provided with communication devices?"</p> <p><b>A: IN replied,</b> "Yes, through the CAA."</p>
24.	<b>Statement by HI:</b> "If you interfere with us, then we will take longer and go North where the bigger whales are."
25.	<b>Statement by IN:</b> "Your prospect is right in the middle of the current. You will change the current and the species. Change the pattern and sediments. I am making my case known to the agencies, creating shorelines and barrier islands, 19 feet is shallow."
26.	<p><b>Statement by EN:</b> "Point Brower is closest to Liberty."</p> <p><b>A: WC replied:</b> "It's about 4-5 miles."</p> <p><b>Q: EN asked,</b> "Why not drill there?"</p> <p><b>A: WC replied,</b> "Polar bears and Native Allotments."</p>
27.	<p><b>Q: JO asked,</b> "Man-made island? Why not make it bigger and directional drilling Point Brower?"</p> <p><b>A: LN replied,</b> "Will provide reservoir over laid maps."</p>
28.	<p><b>Q: EN asked,</b> "How many wells?"</p> <p><b>A: KK replied,</b> "5 wells, 4 to inject water."</p>
29.	<p><b>Q: IN asked,</b> "What is the size of the reservoir?"</p> <p><b>A: KK replied,</b> "BP projected 80-100 million barrels per day; we've projected 60-70 million barrels per day."</p>
30.	<p><b>Q: EN asked,</b> "Once you have your approval, are there any other reservoirs you're planning for?"</p> <p><b>A: LN replied,</b> "No future plans."</p> <p><b>Q: EN asked,</b> "What is the life span?"</p> <p><b>A: WC replied,</b> "30 years."</p>
31.	<p><b>Q: EN asked,</b> "Are there any other reservoirs? Narwhal might have one."</p> <p><b>Q: IN asked,</b> "Has Hilcorp purchased any more leases in the Beaufort?"</p> <p><b>A: LN replied,</b> "No, and we haven't committed to it."</p>
32.	<p><b>Q: IN asked,</b> "Kuukpik is a client in the Cook Inlet. Will there be an EIS?"</p> <p><b>A: KK replied,</b> "Yes."</p> <p><b>Q: IN asked,</b> "Good, I'm glad, 18-24 months?"</p> <p><b>A: KK replied,</b> "Yes, with BOEM."</p>
33.	<p><b>Statement by EN:</b> "Traditional knowledge is the key to your project."</p> <p><b>C: by LN,</b> "We will continue with research and mitigation."</p> <p><b>C: by IN,</b> "The current study benefits AEWC."</p> <p><b>A: LN replied,</b> "We don't want to continue studies that are not beneficial."</p>
34.	<p><b>Statement by KK:</b> "We will be conducting sonar."</p> <p><b>Q: IN asked,</b> "What type of sonar and decibels? You'll impact the fish."</p> <p><b>A: WC replied,</b> "I have the information and will send it to you."</p>
35.	<p><b>Q: Beth Sharp (BS),</b> "You mentioned seals and walrus, what about polar bears? Do you hunt polar bears?"</p> <p><b>A: EN replied,</b> "We rarely harvest polar bears. We will harvest for safety reasons."</p>
36.	<p><b>Statement by IN:</b> "I am glad about the EIS. We will see the full effects."</p> <p><b>C: by EN,</b> "We are the only community affected."</p>

**HILCORP – NUIQSUT WHALING CAPTAINS MEETING**  
**January 13, 2015**

37.	<b>Q: IN asked,</b> “3-5 years for production?” <b>A: WC replied,</b> “Winter 2019 at the earliest.”
38.	<b>Q: LN asked,</b> “Best way to communicate through Isaac?” <b>A: IN replied,</b> “Yes.”

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	Kuukpik Corporation Meeting		
<b>Meeting Location</b>	Nuiqsut, Alaska		
<b>Meeting Facility</b>	Kuukpik Corporation Conference Room		
<b>Date and Time of Meeting:</b>	January 13, 2015 at 3:30 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Joseph Nukapigak (JN)	Kuukpik	Isaac Nukapigak (IN)	Kuukpik
Archie Ahkiviana (AA)	Kuukpik		

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		
<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Present to the Kuukpik Board	LN	
<b>KEY ISSUES:</b>			
1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"><li>• North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li><li>• North Slope Development Project Acquired from BP: Liberty</li></ul>		
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"><li>• Geotechnical Surveys – March 2015</li><li>• Shallow Hazard Surveys – July 2015</li></ul>		
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"><li>• Polar Bears</li><li>• Whales and Seals</li></ul>		
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"><li>• Polar Bears</li><li>• Whales and Seals</li></ul>		
<b>DISCUSSION ITEMS:</b>			

# HILCORP – KUUKPIK CORPORATION MEETING

## January 13, 2015

1.	<p><b>Statement by Lori Nelson (LN):</b> “I just want to begin the process, there is no commitment to execute project. Walton is the lead construction engineer.”</p> <p><b>Statement by Walton Crowell (WC):</b> “Proposing March 1<sup>st</sup>, geotechnical survey holes on the pipeline corridor. Four inch holes, for 20-25 days. We have access to FLIR data. Summer shallow hazard study for five days. Acoustic monitoring, baseline study work to track impacts. During this time, we will have wildlife observers. BP has already conducted a lot of the studies and we have the data.”</p> <p><b>Statement by Kate Kaufman (KK):</b> “The survey will give data on impacts to archeological sites.”</p> <p><b>Statement by Walton Crowell (WC):</b> “We are here to listen to concerns. Earliest we would start construction would be winter of 2017.”</p>
2.	<p><b>Question (Q): Joe Nukapigak (JN) asked,</b> “Will there be an EIS?”</p> <p><b>Answer (A): Isaac Nukapigak (IN) replied,</b> “Yes, it will take 18 to 24 months.”</p>
3.	<p><b>Q: JN asked,</b> “This is not a unit yet?”</p> <p><b>A: IN replied,</b> “No, still needs to go through rezoning and permits.”</p>
4.	<p><b>Statement by WC:</b> “We are utilizing all of BP’s data collected over the years. We feel like our plan is the best option.”</p> <p><b>Q: JN asked,</b> “Supplementary EIS?”</p> <p><b>A: KK replied,</b> “I think it will be an EIS.”</p> <p><b>Comment (C): by WC,</b> “The agency is convinced the technology has changed.”</p> <p><b>C: by IN,</b> “You have Kuukpik to influence the agency. We work with all agencies and in DC. They need to weigh the depth between Chukchi and Beaufort.”</p>
5.	<p><b>Statement by WC:</b> “This summer we will be working out of SDI (Endicott Satellite Drilling Island).”</p>
6.	<p><b>Statement by IN:</b> “Kuukpik plays a significant role in rezoning. We are a significant voice in Northstar using the NEPA process.”</p>
7.	<p><b>Q: JN asked,</b> “There were plans to expand Northstar, is that still happening?”</p>
8.	<p><b>C: by IN,</b> “We worked with Oooguruk on their island.”</p> <p><b>A: WC replied,</b> “I’ve been working with Nanuq.”</p> <p><b>C: by IN,</b> “First priority is safety.”</p> <p><b>A: WC replied,</b> “Nanuq will help Hilcorp on the ice road.”</p>
9.	<p><b>Statement by KK:</b> “We will be presenting to the planning commission.”</p> <p><b>C: by IN,</b> “We would like a full presentation to our board.”</p> <p><b>A: LN replied,</b> “Late summer.”</p>
10.	<p><b>Q: JN asked,</b> “Has anyone requested a community meeting?”</p> <p><b>A: LN replied,</b> “As things progress, we will have a community meeting.”</p>

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	City of Kaktovik Meeting		
<b>Meeting Location</b>	Kaktovik, Alaska		
<b>Meeting Facility</b>	City of Kaktovik Community Center		
<b>Date and Time of Meeting:</b>	January 14, 2015 at 1:00 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Nora Jane Burns, Mayor (NJB)	City of Kaktovik		

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		

<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Walton to look at the use of Endicott for Kaktovik Whaling Captains.	WC	
2.	Present to the City Council, 2 <sup>nd</sup> Tuesday of every month.	LN	
3.	Contact Leo Kayotuk, subsistence advisor for Kaktovik	KK	

#### **KEY ISSUES:**

1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>

#### **DISCUSSION ITEMS:**

1.	<b>Statement by Lori Nelson (LN):</b> "Hilcorp purchased 15-20% of production of BP North Slope assets, including Northstar, Milne Point, Endicott and Liberty. We have inherited the subsistence and good neighbor policy. As for Liberty, we've submitted the development plan to BOEM in December; it's been a media circus because we are in federal waters. We've only committed to engagement and permitting. Beth will speak about existing projects."
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# HILCORP – CITY OF KAKTOVIK MEETING

## January 14, 2015

2.	<b>Question (Q): Nora Jane Burns (NJB) asked,</b> “You will take old BP operations? Liberty is on hold?” <b>Answer (A): LN replied,</b> “Yes and yes.”
3.	<b>Q: NJB asked,</b> “You’ve talked to Nuiqsut? They whale at Cross Island.” <b>A: LN replied,</b> “Yes.”
4.	<b>Statement by NJB:</b> “We whale nearby.” <b>A: LN replied,</b> “Yes, we’ve met with the Kaktovik whaling captains.”
5.	<b>Q: NJB asked,</b> “Will you have the correct Inupiaq names? People bring their new boats to West Dock.” <b>A: LN replied,</b> “Yes, we have an opportunity to let whalers use a closer location. Walton will work on that.” <b>Comment (C): by NJB,</b> “Yes, that will be good.”
6.	<b>Q: NJB asked,</b> “Along the coast will you be doing studies?” <b>A: Beth Sharp (BS) replied,</b> “Yes, fish migration, qaaqtaq, Northstar, bioacoustics monitoring.” <b>C: by NJB,</b> “We have beluga and bowhead.” <b>A: BS replied,</b> “And grey whale. We will continue studies and acoustic monitoring regardless to Liberty.”
7.	<b>Q: NJB asked,</b> “Will there be a road to Liberty or just an island?” <b>A: Kate Kaufman (KK) replied:</b> “No road, just an island. We’ve submitted a plan; will take 18-24 months of studies and engagement before any construction.”
8.	<b>Q: NJB asked,</b> “Will there be any barging?” <b>A: Walton Crowell (WC) replied,</b> “Yes, and we will consolidate the current barging operations. No big sea lifts, truck-able rigs, all part of mitigation.”
9.	<b>Q: NJB asked,</b> “In winter, will you have an ice road to Liberty?” <b>A: WC replied,</b> “It’s possible, an ice road to SDI then to Liberty which would be about five miles.”
10.	<b>Q: NJB asked,</b> “During summer, will you fly quite a bit?” <b>A: WC replied,</b> “We are reducing hover craft and crew boat traffic. Helicopter will be a last resort.” <b>C: by NJB,</b> “That’s good; we’ve requested Helicopters to fly higher around here. Many people depend on hunting, helicopter scare animals away.” <b>C: by BS,</b> “We will try not to use helicopters, too expensive.”
11.	<b>Q: NJB asked,</b> “Will you have local hire? Like polar bear watch?” <b>A: KK replied,</b> “Yes, we’ve been asking for points of contact for these positions.” <b>Q: NJB asked,</b> “Leo Kayutok, City of Kaktovik liaison, he reports to the City. The City meets every 2 <sup>nd</sup> Tuesday of each month at 7pm. How many communities have you visited?” <b>A: LN replied,</b> “We are in the process of figuring things out as to when we are coming back. At this point we expect a full EIS. We certainly anticipate on communicating. We will be starting a website and we will be sending out mailers.”
12.	<b>Q: NJB asked,</b> “During operations, how big of a camp will you have?” <b>A: WC replied,</b> “25 man camp, bigger during the construction and drilling phase.”
13.	<b>Q: NJB asked,</b> “Will you be doing bird studies?” <b>A: BS replied,</b> “Spectacle Eiders and Stellar’s Eiders are on the endangered species list, we will be working with Fish and Wildlife to determine if we need studies. We will most likely be looking at mitigation measures to reduce the chance of bird strikes.” <b>C: by NJB,</b> “I know water studies are done, but not bird studies.” <b>A: BS replied,</b> “We will look at what deters birds away, so they don’t run into rig derricks.”
14.	<b>Q: NJB asked,</b> “Do you have polar bear problems?” <b>A: BS replied,</b> “Yes, a lot at Endicott. We have intentional hazing permits and LOA’s for incidental polar bear takes filed. On occasion, we have to haze. In Endicott, polar bears occasionally just rest.” <b>C: by NJB,</b> “Yes, polar bears head to Cross Island. I help with polar bear control in the fall.” <b>C: by BS,</b> “We work with Fish and Wildlife on FLIRing data to find out where the polar bear dens are.”

# HILCORP – CITY OF KAKTOVIK MEETING

## January 14, 2015

15.	<p><b>Statement by WC:</b> “For our winter plans, we will start in March. We are using the Badami Ice road to the shoreline. From there we will conduct geotechnical surveys out to the Liberty prospect. We will be looking for seal lairs. “</p> <p><b>C: by BS,</b> “We will have subsistence advisors to look for seals.”</p>
16.	<p><b>Q: NJB asked,</b> “How thick does the ice need to be?”</p> <p><b>A: WC replied,</b> “6 feet.”</p>
17.	<p><b>Q: NJB asked,</b> “How deep is the water nearby Liberty?”</p> <p><b>A: WC replied,</b> “19 feet, we will start around March 1<sup>st</sup>.”</p>
18.	<p><b>Q: NJB asked,</b> “How will you make the island, where will you get the gravel from? How long will it take you to finish your March work?”</p> <p><b>A: WC replied,</b> “Our March work will be completed in 23 days. Depended on Exxon finishing their work on the ice road. Northstar is very thin this year. “</p> <p><b>C: by NJB,</b> “We have open water on our North end. You need to be careful.”</p>
19.	<p><b>Statement by WC:</b> “Other work we are proposing is our shallow hazard survey. We are proposing a 40 foot vessel, side scan sonar, and bathymetry. This work will be completed in 5 days. We will have microphones to pick up noises in the area.”</p> <p><b>Q: NJB asked,</b> “We’ll see this in your permits?”</p> <p><b>A: KK replied,</b> “Yes, I’ve submitted permits for winter, not for summer work yet.”</p> <p><b>Q: NJB asked,</b> “Will you submit before summer? Everyone gets busy.”</p> <p><b>A: KK replied,</b> “Yes.”</p>
20.	<p><b>Q: NJB asked,</b> “Will you present to the community?”</p> <p><b>A: WC replied,</b> “Depending if we take this to the next phase. Right now we are doing the leadership, then maybe the community.”</p> <p><b>A: LN replied,</b> “We will be sending a mailer, down the line we will be doing a community meeting.”</p> <p><b>A: WC replied,</b> “This is the team.”</p>
21.	<p><b>Statement by KK:</b> “The shallow hazard will last 5-7 days, small scale in July.”</p> <p><b>Q: NJB asked,</b> “Weather gets better in August, no choppers?”</p> <p><b>A: WC replied,</b> “We will have one day of choppers, looking for strudel scours. We will have a subsistence advisor for this work.”</p> <p><b>Q: NJB asked,</b> “Do you plan for more days in case of weather?”</p>
22.	<p><b>Q: BS asked,</b> “Any further questions on the existing operations?”</p> <p><b>C: WC replied,</b> “What we’re hearing is studies, haven’t been shared.”</p>
23.	<p><b>Q: NJB asked,</b> “When Shell came they promised to show core samples and they haven’t. I know a lot of hunting on shore and seal and walrus hunting is in your area. Did you meet with the whalers?”</p> <p><b>A: LN replied,</b> “Yes, and Charlotte’s office. Met in Nuiqsut, we will come back with different maps.”</p>
24.	<p><b>Q: NJB asked,</b> “Did BP give you their studies? Ongoing or updating?”</p> <p><b>Q: BS asked,</b> “Yes, is there anything in particular?”</p> <p><b>A: NJB replied,</b> “No. When you start in March, there will be high winds, like 60 mph.”</p> <p><b>C: by WC,</b> “We are 50/50 owners on Liberty; it is in their best interest that we are successful.”</p> <p><b>C: by NJB,</b> “That’s good they will help you.”</p>
25.	<p><b>Q: LN asked,</b> “How many people live here?”</p> <p><b>A: NJB replied,</b> “260-300”</p> <p><b>Q: LN asked,</b> “How many in the school?”</p> <p><b>A: NJB replied,</b> “60-70, 4 are graduating this year.”</p> <p><b>Q: LN asked:</b> “How long have you been mayor?”</p> <p><b>A: NJB replied,</b> “This is my 3<sup>rd</sup> term, it is getting easier.”</p>
26.	<p><b>Q: BS asked,</b> “What are your major issues?”</p> <p><b>A: NJB replied,</b> “Impacts like meetings and tourism.”</p> <p><b>Statement by NJB:</b> “We’ve requested impact funds from Shell, they are not allowed back in our community for the negative media and how they portrayed Kaktovik. Leo’s position is funded by impact funds. We’ve brought up concerns of yellow haze, will you be doing air quality permits.”</p> <p><b>A: by BS,</b> “Yes, clean burning engines, for example. “</p>



**HILCORP – CITY OF KAKTOVIK MEETING**  
**January 14, 2015**

27.	<p><b>Q: NJB asked,</b> “Sometimes we get high winds and large waves. How will this affect you?”</p> <p><b>A: WC replied,</b> “We’ve designed it for the 200 year storm event, up to 33 feet tall. It will be more equipped then Northstar. We’ve studied how far the ice will crust.”</p> <p><b>Q: NJB asked,</b> “Have you factored in global warming and sinking?”</p> <p><b>A: WC replied,</b> “Yes, we are planning on over building it by 3 feet. Liberty will have dry material and sheet pile to keep wells from warming the water. Hopefully not sinking like Northstar.”</p>
28.	<p><b>Q: NJB asked,</b> “Will you be working with Nuiqsut?”</p> <p><b>A: LN replied,</b> “Yes, we will be working with them.”</p>
29.	<p><b>Statement by WC:</b> “There is a difference between Northstar and Liberty. We are seeing less ice and less multiyear ice.”</p> <p><b>C: by NJB,</b> “Yes, that’s where the marine mammals stay; now the animals are coming on shore earlier. Leo’s email is <a href="mailto:impact@cityofkaktovik.org">impact@cityofkaktovik.org</a>.”</p>

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	Kaktovik Inupiat Corporation (KIC) Meeting		
<b>Meeting Location</b>	Kaktovik, Alaska		
<b>Meeting Facility</b>	Kaktovik Inupiaq Corporation Conference Room		
<b>Date and Time of Meeting:</b>	January 14, 2015 at 2:30 pm		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Nathan Gordon (NG)	KIC	Glen Solomon (GS)	KIC
Charlie Brower (CB)	KIC	Phillip Tikluk (PT)	KIC
Charles Lampe (CL)	KIC	Fannie Soplu (FS)	KIC

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		
<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Send training and job opportunities	WC	

#### **KEY ISSUES:**

1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>

#### **DISCUSSION ITEMS:**

1.	<b>Statement by Lori Nelson (LN):</b> Lori gave introductions and history of Hilcorp. "Hilcorp buys existing assets and ups the production with a lower cost."
2.	<b>Question (Q): Glen Solomon (GS) asked,</b> "Are there any training opportunities?" <b>Answer (A): LN replied,</b> "Yes, we are looking for community interest. We need contacts." <b>Q: GS asked,</b> "Do you need NSTC Cards or Hazwoper training?" <b>A: Walton Crowell (WC) replied,</b> "Training for more consistent jobs?" <b>Q: GS asked,</b> "Like roustabout positions?" <b>A: WC replied,</b> "It is our intention to use local hire."

# HILCORP – KAKTOVIK INUPIAT CORPORATION MEETING

## January 14, 2015

3.	<b>Statement by LN:</b> “We’ve inherited BP’s deadline, we’ve submitted our plan end of December to BOEM. At this point the only thing we are committed to is stakeholder engagement and permitting. We will assess and make sure it’s beneficial to us.”
4.	<p><b>Q: GS asked,</b> “Is this the pipeline to Point Thomson? Where is the pipeline hooking up to straight down?”</p> <p><b>A: WC replied,</b> “Yes, straight down. In order to access this prospect we will go on the Badami Road.”</p> <p><b>Q: GS asked,</b> “How are the pressure ridges at this point?”</p> <p><b>A: WC replied,</b> “I will look into this, this summer is very flat. We will send a rolligon ahead to do an ice assessment. That’s why we are using the tuckers as well. We will be conducting geotechnical surveys. We want to study the strudel scour.”</p> <p><b>A: Kate Kaufman (KK) replied,</b> “That will start in March and last 20-25 days. We will have an IHA for incidental takes of whales and seals and an LOA for incidental takes of polar bears. We are in the early stages of our permits. More community involvement on the project.”</p>
5.	<b>Statement by WC:</b> “This summer we will gather shallow hazard survey data. Using side scan sonar and bathymetry. We will use a smaller boat to get in shallow areas. We will be based at SDI. During break up we will have one of the choppers looking for strudel scours.”
6.	<p><b>Q: GS asked,</b> “What is the depth?”</p> <p><b>A: BS replied,</b> “19 feet. We will be doing acoustic monitoring, bio acoustic, listening to marine mammals. We will plan for mitigation.”</p>
7.	<p><b>Q: GS asked,</b> “Do you know whose native allotment that is?”</p> <p><b>A: BS replied,</b> “Yes, we are in contact with the planning department.”</p>
8.	<p><b>Q: GS asked,</b> “Where will you get the gravel?”</p> <p><b>A: WC replied,</b> “We are proposing a gravel pit. Our gravel footprint has been reduced.”</p>
9.	<p><b>Q: GS asked,</b> “How big will the island be?”</p> <p><b>A: WC replied,</b> “19 acres, same concrete armament and sheet protection as Northstar. We are in less deep of water; we won’t see the multi-year ice. There are a lot of issues we’ve learned from Northstar.”</p>
10.	<b>Statement by LN:</b> “If you have any questions, please contact me. We think a full EIS will happen and it will take up to 2 years.”
11.	<b>Statement by KK:</b> “Parallel to BOEM, we will be submitting permits and reaching out to stakeholders. Coming out to the communities.”
12.	<p><b>Q: GS asked,</b> “Will you have the equipment to grind and inject?”</p> <p><b>A: KK replied,</b> “Yes, it will have a production facility on the island. We will have a vertical well, straight down. The reservoir will flow really well and is porous.”</p>
13.	<b>Statement by LN:</b> “We’ve inherited this project from BP and a lot of research has been done. We are going through and we want to do this responsibly.”
14.	<b>Q: Beth Sharp (BS) asked,</b> “Are there concerns on this project or Endicott, Milne Point, or Northstar? Any subsistence impacts? Do you have any concerns about the current operations?” (No questions regarding impacts.)
15.	<p><b>Q: GS asked,</b> “Will you work with ASRC?”</p> <p><b>A: LN replied,</b> “Yes, helping with permitting.”</p> <p><b>A: KK replied,</b> “Yes, later we will have community meetings. Right now we are looking for points of contacts.”</p>
16.	<p><b>Q: GS asked,</b> “We are looking for training and local hire opportunities. What are the royalties?”</p> <p><b>A: LN replied,</b> “We are looking into it, earliest production 2019.”</p> <p><b>C: by KK,</b> “It’s on our list to do to find out.”</p>
17.	<p><b>Q: LN asked,</b> “As a corporation, any concerns?”</p> <p><b>Answer by a Kaktovik Inupiat Corporation (KIC) Representative:</b> “Fuel.”</p> <p><b>Comment by a KIC Representative:</b> “Our Marsh Creek hires MMOs.”</p>

<b>Project Name:</b>	<b>Hilcorp Alaska, Inc. Plan of Cooperation Minutes</b>		
<b>Type of Meeting:</b>	Kaktovik Whaling Captain's Meeting		
<b>Meeting Location</b>	Kaktovik, Alaska		
<b>Meeting Facility</b>	Marsh Creek Hotel		
<b>Date and Time of Meeting:</b>	January 14, 2015 at 11:00 am		
<b>Hilcorp Alaska, Inc. (HILCORP) and ASRC Energy Services Alaska, Inc. (AES) staff:</b>			
Hilcorp: Walton Crowell (WC)		Hilcorp: Kathryn Kaufman (KK)	
Hilcorp: Lori Nelson (LN)		Hilcorp: Elizabeth Sharp (BS)	
AES: Robin Demoski (RD)			
<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>	<b>ATTENDED BY:</b>	<b>ORGANIZATION:</b>
Chris Gordon, President (CG)	Kaktovik Whaling Captain	James Lampe (JL)	Kaktovik Whaling Captain
George Kaleak (GK)	Kaktovik Whaling Captain	John Henry-Akpik (JHA)	Kaktovik Whaling Captain
Charlie Brower (CB)	Kaktovik Whaling Captain	Stephanie Ashiana (SA)	Wife of Kaktovik Whaling Captain

<u>Item</u>	<u>Agenda Item</u>		
1.	Introduction		
2.	Presentation		
3.	Questions or Comments		
<u>Item</u>	<u>Action Item</u>	<u>Action By</u>	<u>Follow up Deadline</u>
1.	Look into options for Whalers to off ramp at Endicott	WC	

#### **KEY ISSUES:**

1.	<b>Introduction and History of Hilcorp in Alaska</b> <ul style="list-style-type: none"> <li>North Slope Properties Acquired from BP: Milne Point, Northstar and Endicott</li> <li>North Slope Development Project Acquired from BP: Liberty</li> </ul>
2.	<b>Description of Upcoming Liberty Work</b> <ul style="list-style-type: none"> <li>Geotechnical Surveys – March 2015</li> <li>Shallow Hazard Surveys – July 2015</li> </ul>
3.	<b>Questions or Concerns About Interference with Subsistence Activities in Relation to Upcoming Liberty Work?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>
4.	<b>Question or Concerns About Interference with Subsistence Activities in Relation to Existing North Slope Operations?</b> <ul style="list-style-type: none"> <li>Polar Bears</li> <li>Whales and Seals</li> </ul>

#### **DISCUSSION ITEMS:**

1.	<b>Statement by Lori Nelson (LN):</b> "We've purchased 50% of BP's holdings. 100% of Northstar, 50% of Milne Point, 100% of Endicott and 50% of Liberty. We are the operator for Liberty. Right now, we are getting input for decision making. We are going through the regulatory and stakeholder process. Walton will talk about our primary research for the Liberty Development this year and our timeline. Beth will talk about our existing assets (Milne, Nortstar, and Endicott) and whether you have any subsistence concerns with those locations."
----	---

# HILCORP – KAKTOVIK WHALING CAPTAIN'S MEETING

## January 14, 2015

2.	<p><b>Question (Q): George Kaleak (GK),</b> "You've purchased 100% of Endicott? In regards to boats, we off ramp at West Dock. We would like to off ramp at Endicott."</p> <p><b>Answer (A): Walton Crowell (WC) replied,</b> "We can talk to ACS about the boat dock."</p> <p><b>Comment (C): by LN,</b> "This is the team to talk to, Walton is the contact for Endicott. "</p> <p><b>Statement by GK:</b> "This happens at least once or twice a year. When people purchase new boats, it would be easier to launch at Endicott. Main reasons for security, is to make sure alcohol and drugs are not coming into our dry community."</p>
3.	<p><b>Statement by Kate Kaufman (KK):</b> "We expect permitting to last 18 to 24 months. There will most likely be an EIS for this project. The project is in its early phases."</p>
4.	<p><b>Statement by WC:</b> "The activity we are planning will start in March, for geotechnical surveys, two on tundra, and transition area along the corridor and some at the island location itself. This will have a pipe in pipe configuration, buried 13 feet, risks are much less, and does not interfere with ice gouging."</p> <p><b>Q: GK asked,</b> "Has the pipe been tested in the arctic?"</p> <p><b>A: WC replied,</b> "Yes."</p>
5.	<p><b>Statement by KK:</b> "We are permitting with the NSB and State. We are filing an IHA and we plan on hiring subsistence advisors."</p>
6.	<p><b>Statement by WC:</b> "The duration of our winter work is 22-25 days. A lot of data has been collected and studies have been done in the past by BP. We do have access to BP's information."</p>
7.	<p><b>Q: GK asked,</b> "Where is Kavik River? We go fishing at Shaviovik River for grayling and char. We travel through Camden Bay. Will you have an ice road this year?"</p> <p><b>A: KK replied,</b> "No"</p> <p><b>Q: Chris Gordon (CG) asked,</b> "Will it even freeze? We had open water last month."</p> <p><b>A: WC replied,</b> "We've heard, we will use the ice road from Badami and head North."</p> <p><b>A: KK replied,</b> "The proposed island is in 19 feet of water."</p>
8.	<p><b>Statement by WC:</b> "As for our summer work, a small 42 foot boat will go into the shallows. We will be out for about 5 days. We are looking at the sea profile of the sea floor. We will use acoustic monitoring."</p> <p><b>Q: GK asked,</b> "Where?" Kate shows George Kaleak where on the map. "Why will you put the monitors outside the islands?"</p> <p><b>A: WC replied,</b> "The source will be inside and monitoring devices will be inside the barrier islands."</p> <p><b>A: BS replied,</b> "We can monitor bioacoustics, ambient sounds."</p>
9.	<p><b>Q: GK asked,</b> "How many decibels?"</p> <p><b>A: WC replied,</b> "We will be collecting geohazard data for five days. We will be collecting sound data throughout the open water season. The sound monitors will reveal the decibels of our equipment"</p>
10.	<p><b>Q: GK asked,</b> "Is this seismic? "</p> <p><b>A: WC replied,</b> "No, this is not seismic."</p> <p><b>C: by GK,</b> "I've requested the effects on seismic and I have not received the data."</p> <p><b>A: WC replied,</b> "The seismic has already been done by BP."</p> <p><b>C: by GK,</b> "We know the whales feel it, we have to go 30 miles out to go whaling."</p> <p><b>C: by CG:</b> "The meat spoils further out."</p> <p><b>Q: KK asked,</b> "Were the whales closer this year?"</p> <p><b>A: GK replied,</b> "Yes, close."</p>
11.	<p><b>Statement by KK:</b> "NMFS will pay attention to our operations and they have strict guidelines."</p>
12.	<p><b>Q: CG asked,</b> "How big will the pipeline be?"</p> <p><b>A: WC replied,</b> "12 inches inside and 16 inches outside. That helps us monitor for air pressure and temperature. How we've chosen this option is it was approved in 2000, number one best for the environment. Avoids the boulder patch, avoids strudel scour."</p>
13.	<p><b>Q: GK asked,</b> "We've boated through the boulder patch, it's dangerous. What was the summer timeframe?"</p> <p><b>A: KK replied,</b> "In July for five days."</p>

**HILCORP – KAKTOVIK WHALING CAPTAIN'S MEETING**  
**January 14, 2015**

14.	<b>Statement by GK:</b> "We have a CAA through AEWC." <b>A: WC replied,</b> "We will be signing the CAA." <b>C: by LN,</b> "We will be at the mini-convention."
15.	<b>Statement by CG:</b> "Best way to contact me is by email, <a href="mailto:gordonchristopher@hotmail.com">gordonchristopher@hotmail.com</a> and my number is (907) 640-2808."
16.	<b>Q: BS asked,</b> "Do you have any questions about our existing facilities? I know polar bears are a big issue." <b>A: GK replied,</b> "We are trying to control tourism here in Kaktovik." <b>Q: BS asked,</b> "Are the way that we are handling polar bears okay with you?" *Head nod, "Yes," from the Whaling Captains.
17.	<b>Q: GK asked,</b> "Will you have summer time barges?" <b>A: WC replied,</b> "Yes, there will be services at SDI. Northstar had 3-4 barges per year. We will probably just have 1-2 barges this year." <b>C: by GK,</b> "We know that Nuiqsut have seen barges near Cross Island. That is why we have the comm centers, when we see them, we report them."
18.	<b>Q: GK asked,</b> "Which oil company did you learn from?" <b>A: BS replied,</b> "All of them." <b>C: by LN,</b> "I'm sure you'll see us in the media."

## **Attachment C**

### **Meeting Materials and Presentations**

Village of Nuiqsut Community and Kuukpik Subsistence Oversight  
Panel (KSOP) Presentation

December 2, 2015





Integrity • Urgency • Ownership • Alignment • Innovation





# Who is Hilcorp?



Established in 1989

Privately Owned

100% U.S. Based Operations

1,300 Employees

508 Alaska Based, 452 Alaska Residents

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*Our success is a direct result of hard work and dedication to doing the right thing. Protecting the environment and ensuring a safe, healthy workplace are priority one for Hilcorp.*

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# What are we buying?

## ENDICOTT

100% of BP's interest  
Hilcorp operated

## NORTHSTAR

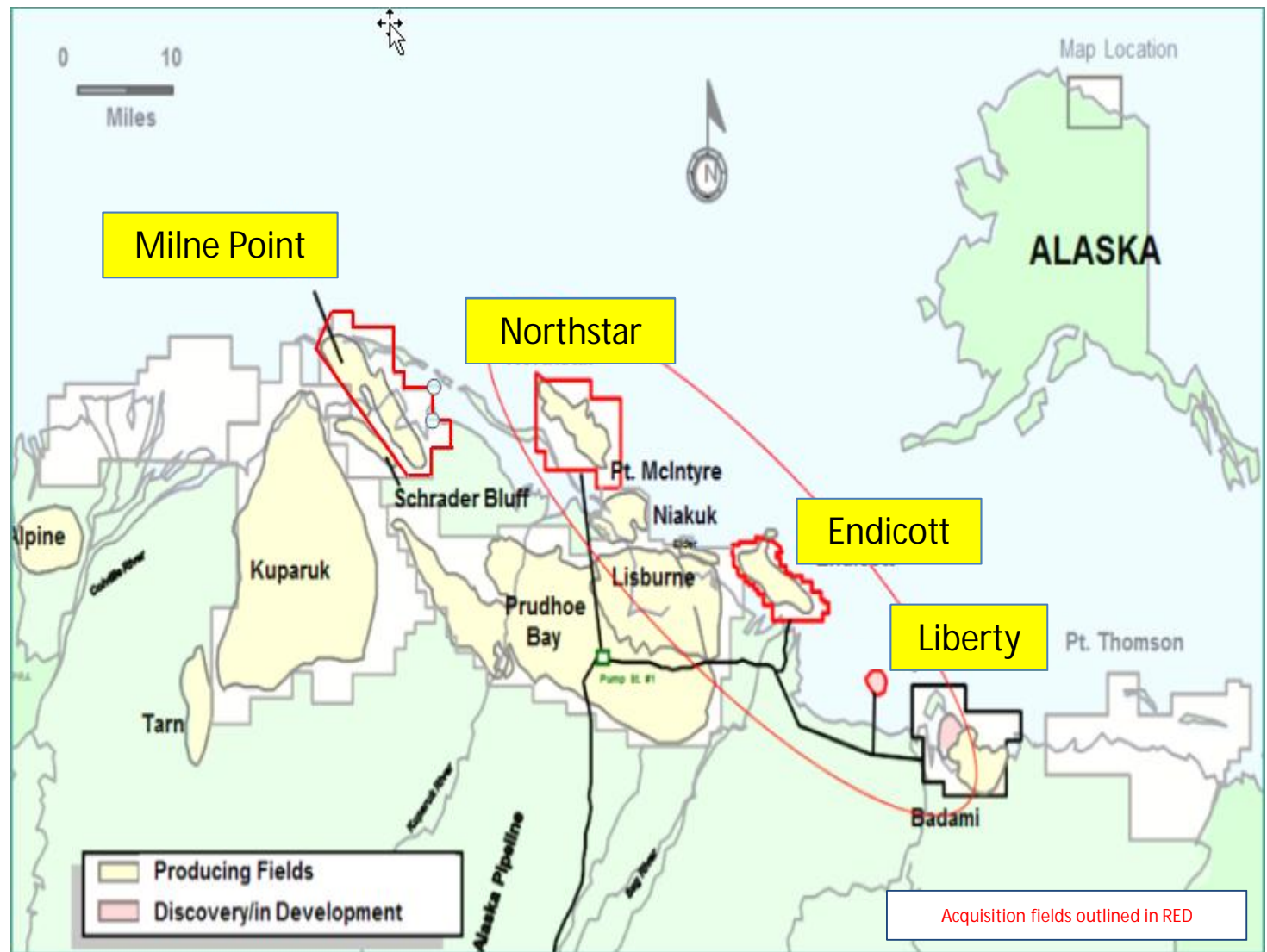
100% of BP's interest  
Hilcorp operated

## MILNE POINT

50% of BP's interest  
Hilcorp operated

## LIBERTY DEVELOPMENT

Operator and 50%  
partner with BP.  
Advancement of  
Liberty development  
subject to regulatory  
and internal approvals.





# North Slope Team



Retained 90%+ of existing field personnel

Experienced Alaskan Support

- Environmental
  - Drilling
- Engineering
  - Logistics
    - Land
- Contractors

Transparent and responsible

*Hilcorp is a company built on energy and will continue to earn success by challenging ourselves, rewarding our employees, being good corporate citizens and doing the right thing.*



# Environmental Team

William Britt, Environmental Manager

Kelley Nixon, Environmental Specialist – Permitting

Wally Evans, Environmental Specialist – Air

Jessica Morehouse, Environmental Specialist - Water

Drew Anderson, Environmental Specialist – Remediation

Gretchen Stoddard, Environmental Specialist – Waste

Diane Dunham, Environmental Specialist – Emergency Management

Kate Kaufman, Environmental Specialist – Drilling

Beth Sharp, Environmental Specialist - Fish and Wildlife

Stefan Gogosha, Environmental Specialist – North Slope

Deborah Heebner , Environmental Specialist – North Slope





# Responsible development

Member of Alaska Clean Seas

AEWC Conflict Avoidance Agreement

Good Neighbor Policy

Comprehensive Spill Response Plan

Plans of Cooperation

Continued Monitoring and Mitigation



# Looking Ahead

## **MILNE POINT**

Well workover program starting January 2015  
Drilling program under evaluation

## **NORTHSTAR**

Evaluating workover options

## **ENDICOTT**

Evaluating workover options

## **LIBERTY PROJECT**

Submit Development & Production Plan  
Continue to evaluate project

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*Hilcorp creates value within the communities in which we operate, provides local jobs, extends the life of legacy assets and efficiently captures needed energy resources that would otherwise be lost.*

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Questions?

*Thank You!*

For More Information Contact:  
Lori Nelson, External Affairs Manager  
[lnelson@hilcorp.com](mailto:lnelson@hilcorp.com) 907-777-8392

Bill Britt, Environmental Manager  
[wbritt@hilcorp.com](mailto:wbritt@hilcorp.com) 907-777-8310

Beth Sharp, Environmental Specialist  
[esharp@hilcorp.com](mailto:esharp@hilcorp.com) 907-777-8436



# Inupiat Community of the Arctic (ICAS) Presentation

January 8, 2015



Integrity • Urgency • Ownership • Alignment • Innovation





# Who is Hilcorp?



Established in 1989

Privately Owned

100% U.S. Based Operations

1,480 Employees

508 Alaska Based, 452 Alaska Residents



---

*Our success is a direct result of hard work and dedication to doing the right thing. Protecting the environment and ensuring a safe, healthy workplace are priority one for Hilcorp.*

---



# How we Operate

## **ADD VALUE**

We focus on production; every task must add value

## **EXECUTION FOCUSED**

We make decisions; move forward with purpose

## **ACCOUNTABILITY**

Ethical and engaged workforce; individuals held accountable

## **DIRECT & CANDID COMMUNICATION**

Clear expectations; transparency enforced

## **FLAT STRUCTURE**

No organizational complexities.

We operate as one team; limited middle management.

Contractors are accountable to a staff person.





# What was Acquired on North Slope

## MILNE POINT

Purchased 50% of BP's interest. Hilcorp operated

## NORTHSTAR

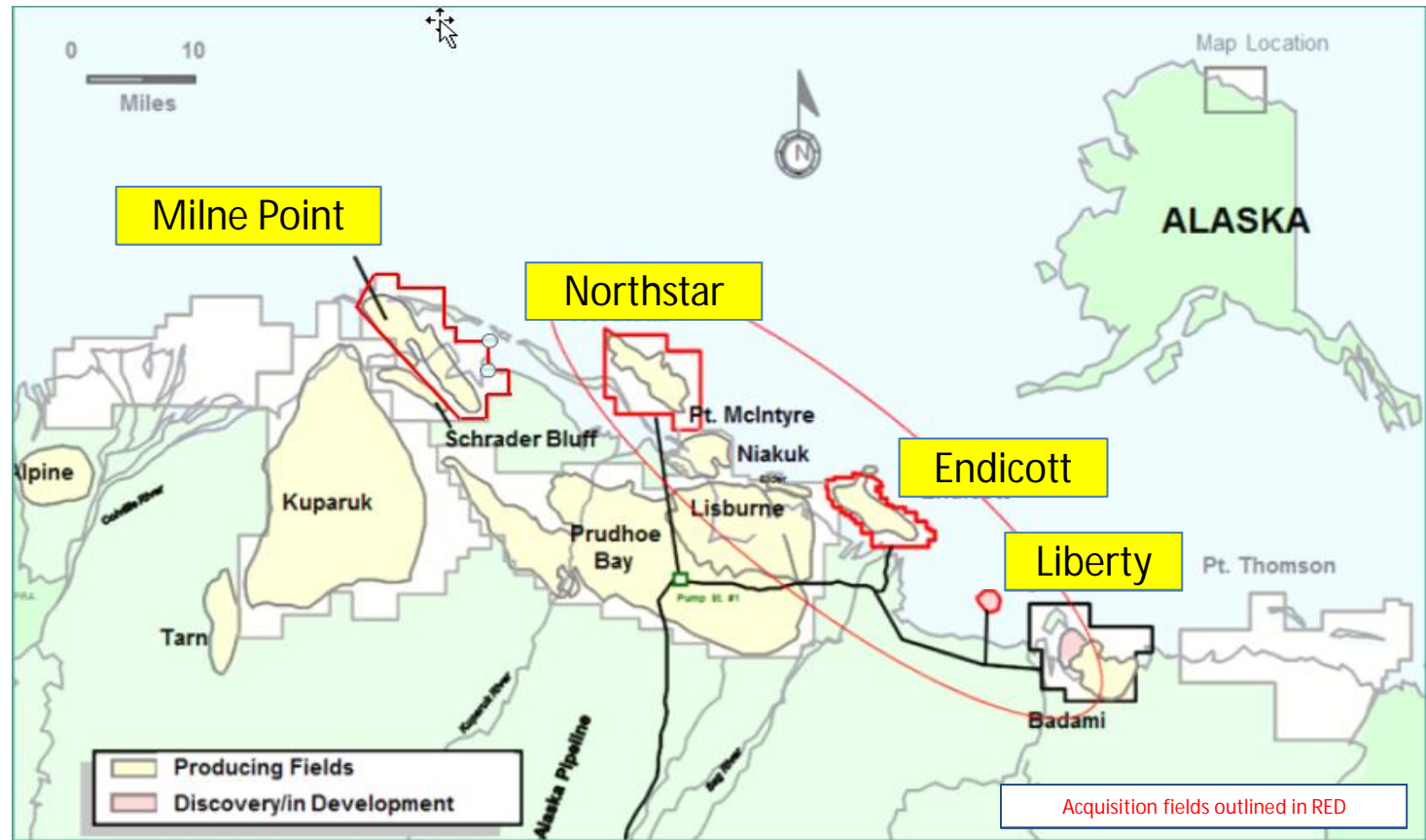
Purchased 100% of BP's interest. Hilcorp operated

## ENDICOTT

Purchase 100% of BP's interest. Hilcorp operated with Exxon and Chevron as partners.

## LIBERTY DEVELOPMENT

Operator and 50% partner with BP. Eventual development subject to regulatory and internal approvals.







# North Slope Team



Retained 90%+ of existing field personnel

## Experienced Alaskan Support

- Operations
- Environmental
- Drilling
- Engineering
- Logistics
- Land & Regulatory
- Contractors

Transparency & Communication is key to running a lean organization

---

*Hilcorp is a company built on energy and continues to earn success by challenging ourselves, rewarding our employees, being good corporate citizens, and doing the right thing.*

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# Northstar Production Facility







# Endicott Production Facilities







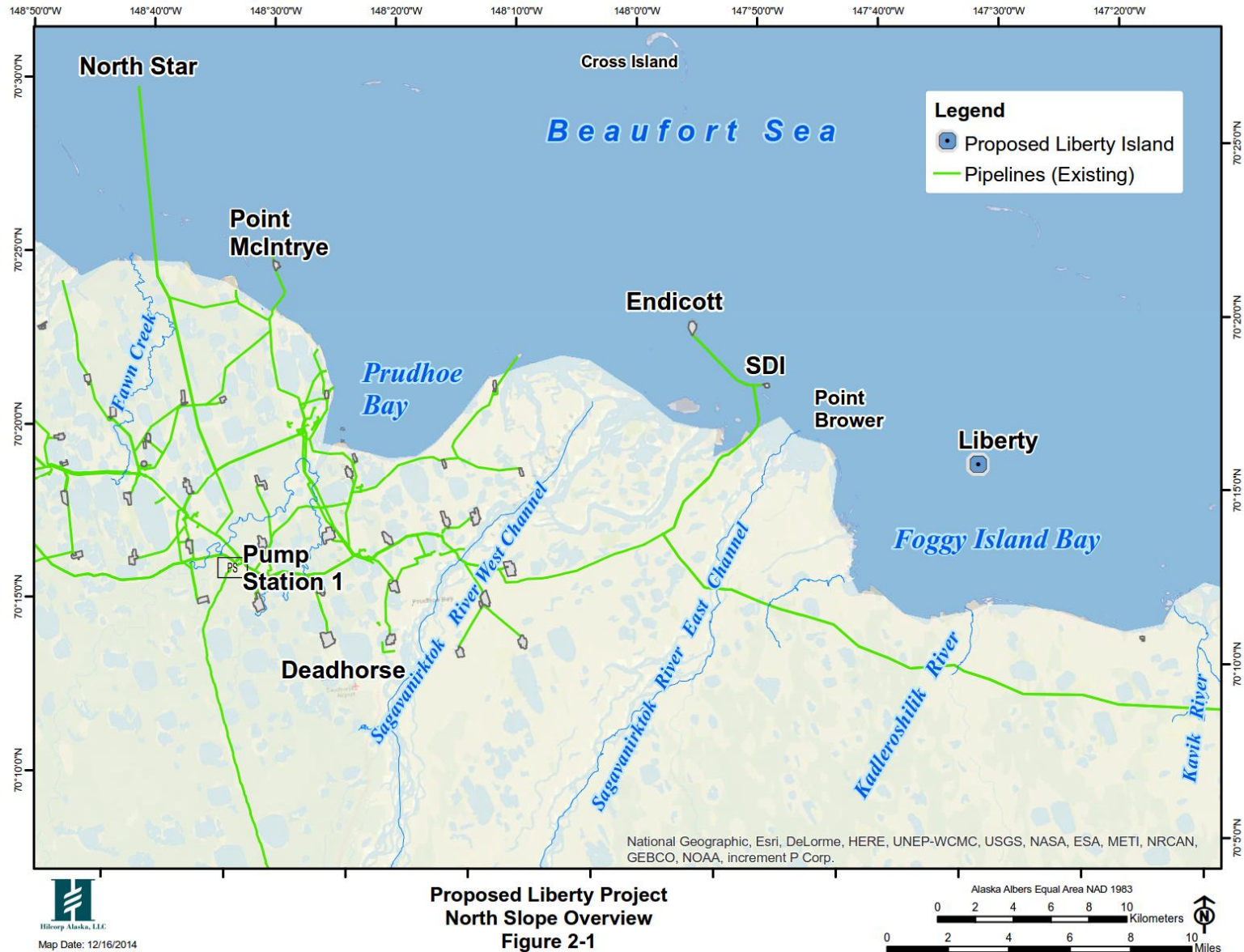
# Milne Pt. Production Facilities



Figure Number 2: Milne Point Field Boundaries



# Liberty Locator Map





# 3D Rendering of Proposed Liberty Island







# Development Responsibilities

Member of Alaska Clean Seas

AEWC Conflict Avoidance Agreement

Continued Monitoring and Mitigation

Comprehensive Spill Response Plans

Good Neighbor Policy

Plans of Cooperation

Listen, Learn, Improve



# Questions?

## Quyanag!

**For More Information Contact:**

**Lori Nelson, External Affairs Manager**  
**[lnelson@hilcorp.com](mailto:lnelson@hilcorp.com) 907-777-8392**

**Beth Sharp, Environmental Specialist**  
**[esharp@hilcorp.com](mailto:esharp@hilcorp.com) 907-777-8436**

**Kate Kaufman, Liberty Lead**  
**[kkaufman@hilcorp.com](mailto:kkaufman@hilcorp.com) 907-777-8329**

**Mike Dunn, North Slope Operations Manager**  
**[mdunn@hilcorp.com](mailto:mdunn@hilcorp.com) 907-777-8382**

Liberty Ancillary Activities Plan of Cooperation Meetings in Barrow,  
Nuiqsut and Kaktovik – Meeting Materials

January 12-14, 2015





Photo by Golder Associates

Figure 1 Rubble Sea Ice near Duck Island



Photo by Golder Associates

Figure 2 Flooding with Sea Water to Build Ice



Photo by Golder Associates

Figure 3 Water Pump in Action



Photo by Golder Associates

Figure 4 Using Thermal Probe to Check Ice Thickness



Photo by Golder Associates

Figure 5 Geotechnical Equipment Staged at Liberty



Photo by Golder Associates

Figure 6 Setting up Equipment to Place Rig Mat over Lead in Sea Ice



Photo by Golder Associates

Figure 7 Placing Rig Mat Over Lead

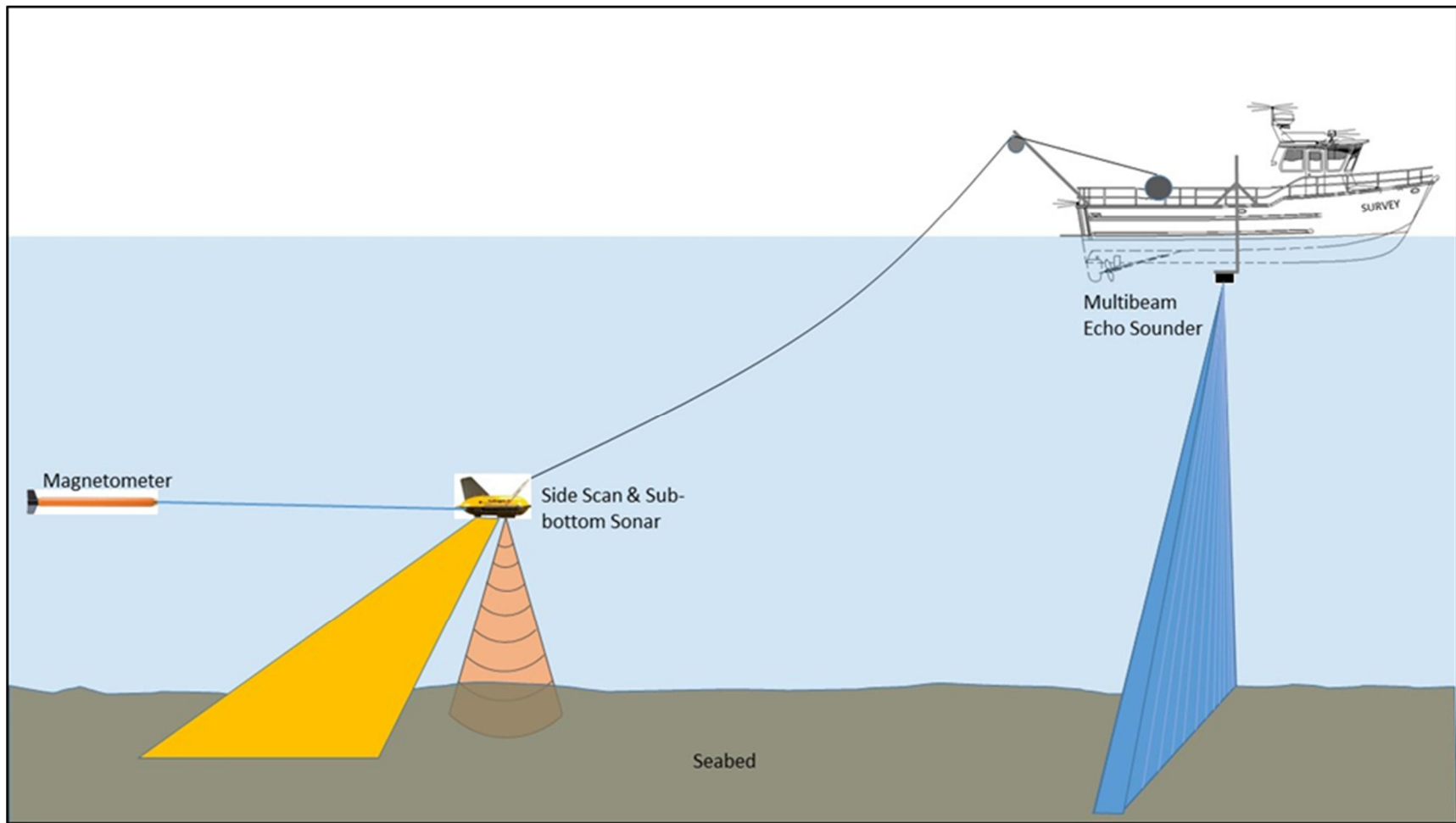


Photo by Golder Associates

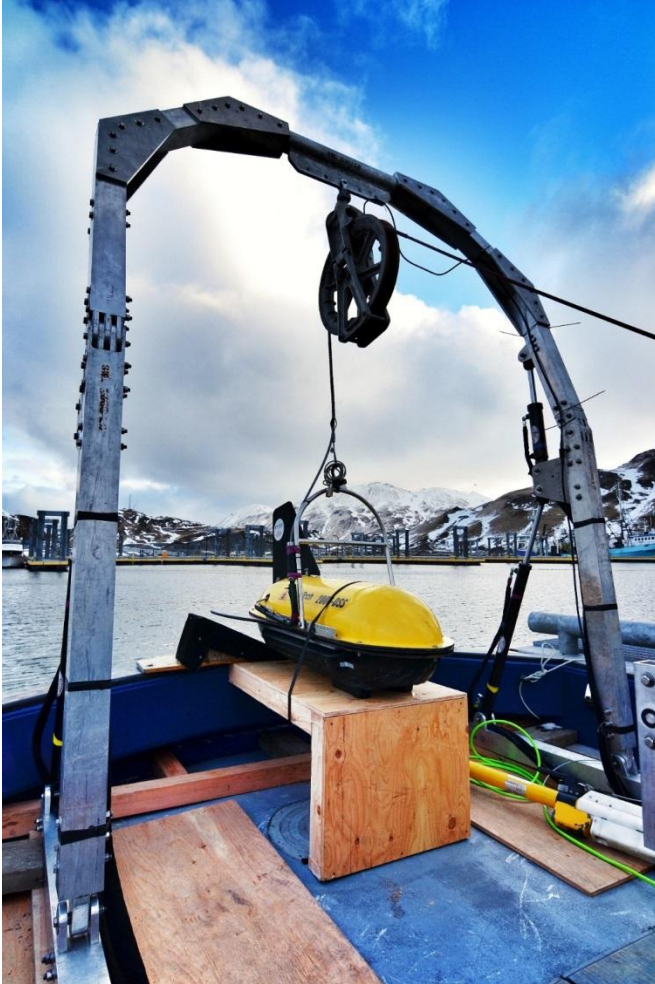
Figure 8 Traveling on Floating Sea, Beaufort Sea, Alaska



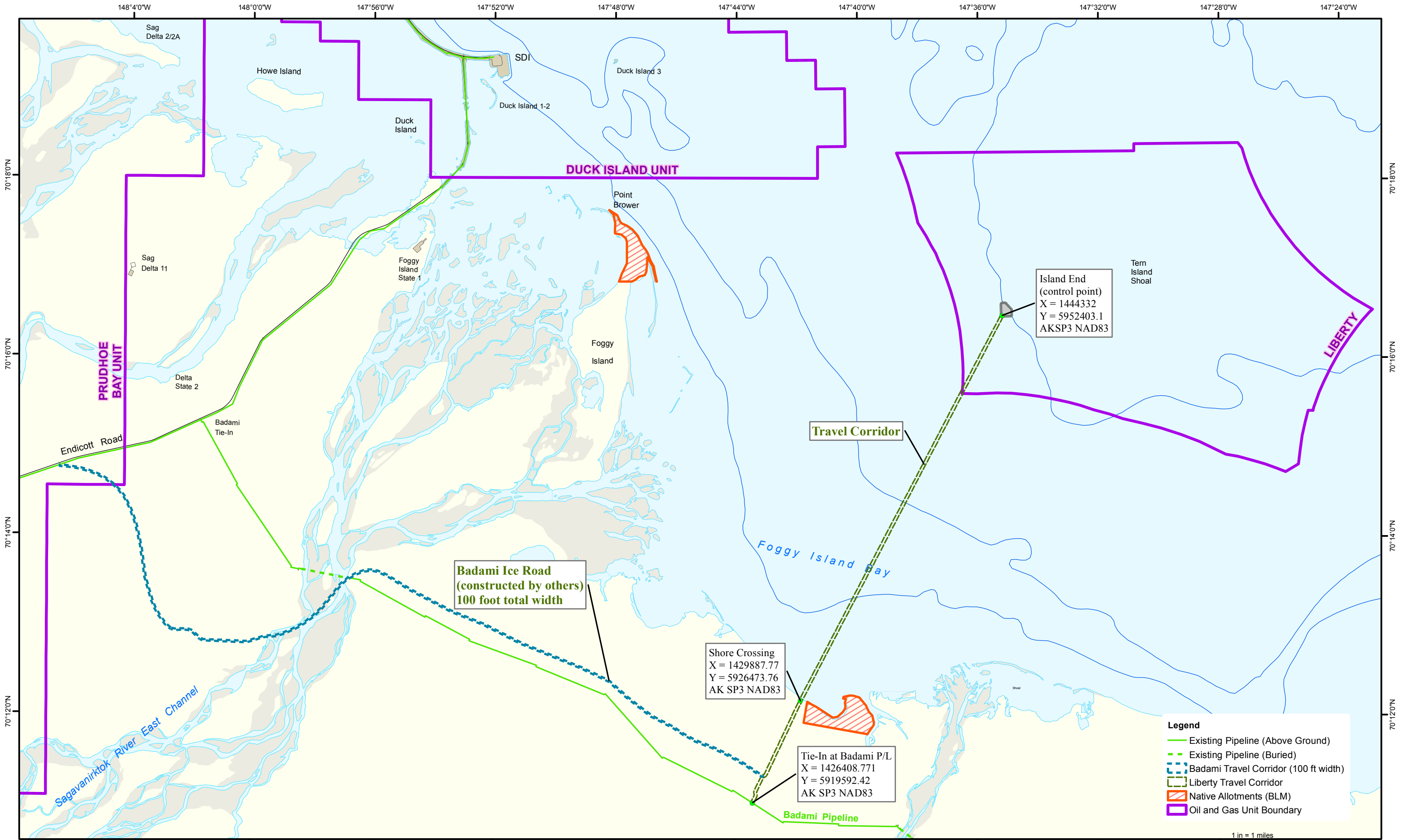
# Proposed Liberty Shallow Hazard Survey Equipment Summer 2015



## Proposed Liberty Shallow Hazard Survey Equipment Summer 2015 (cont.)

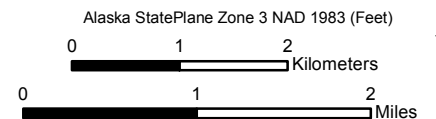






Map Date: 1/7/2015

**Proposed Liberty  
2015 Winter Access Overview  
For Geotechnical Investigations**







**Legend**

- Existing Pipeline
- Marine Access Route
- Proposed Liberty Island



# North Slope Borough Planning Commission Presentation

January 29, 2015





# Hilcorp Alaska



Integrity • Urgency • Ownership • Alignment • Innovation





# Presentation Outline

- Introductions
- Liberty Overview: Location, Schedule
  - DPP submitted – subject of this presentation
  - EIA and OSRP submitted – subject of future presentations
- Subsurface Depletion Plan: Reservoir, Drilling “Spider Plot”
- Access to the Project
- Artificial Gravel Island Design
- Pipeline
- Drilling
- Surface Facilities
- Summary



# Who is Hilcorp?



Established in 1989, Privately Owned  
160,000 Net BOEPD production  
100% in U.S. ~1/3 production from AK  
1,408 Employees, 500 in Alaska

## Core Values

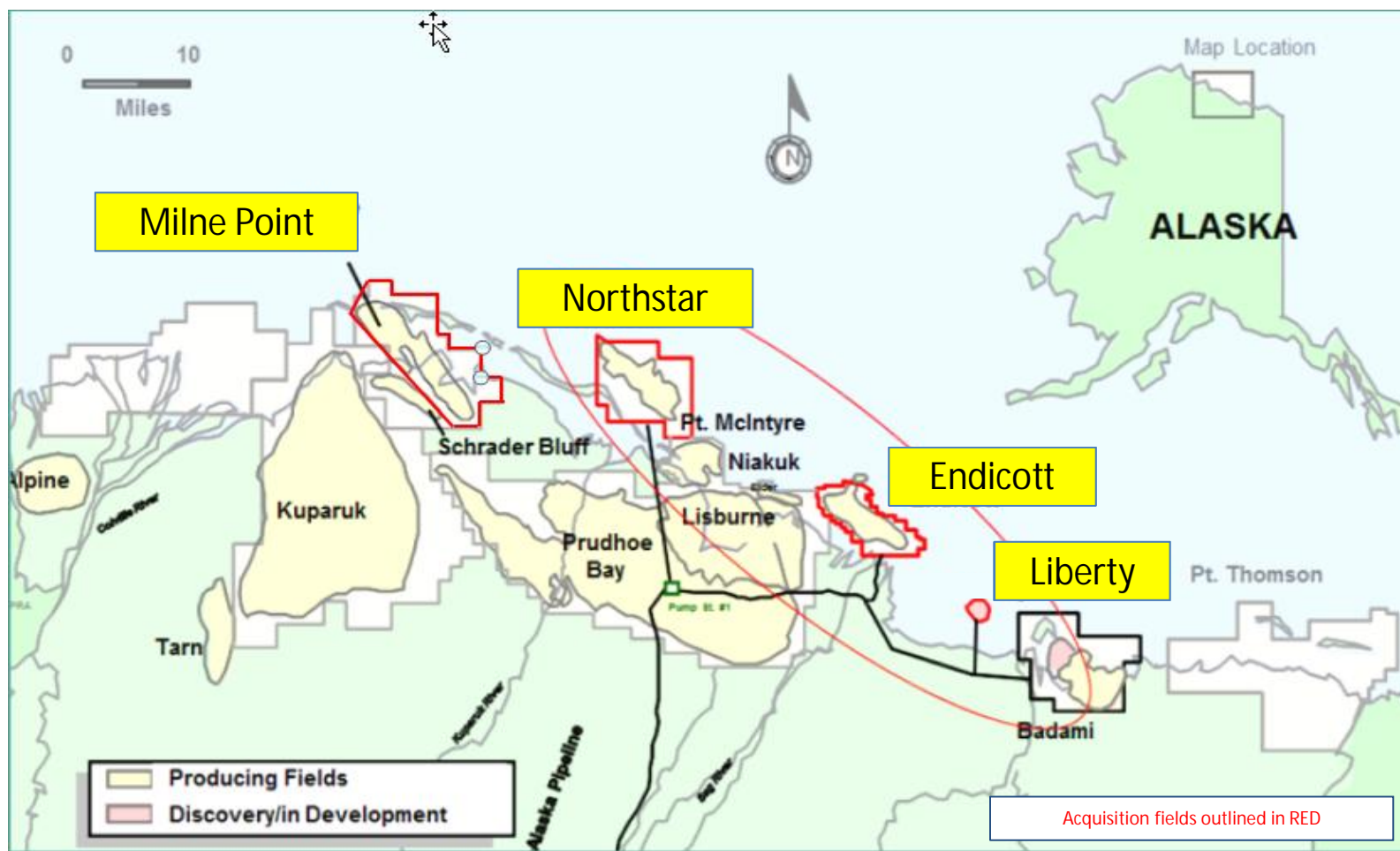
- Integrity
- Urgency
- Ownership
- Alignment
- Innovation

## Operating Philosophies

- **Add Value** – We focus on production, every task must add value
- **Execution Focused** – We make decisions; move forward with purpose
- **Accountability** – Ethical and engaged workforce; individuals held accountable
- **Direct & Candid Communication** – Clear expectations; transparency enforced
- **Flat Structure** – No organizational complexities: We operate as one team; limited middle management. Contractors are accountable to a staff person.



# November 2014: Entered North Slope



MILNE POINT  
50% of BP's interest  
Hilcorp operated

NORTHSTAR  
100% of BP's interest  
Hilcorp operated

ENDICOTT  
100% of BP's interest  
Hilcorp operated

LIBERTY DEVELOPMENT  
50% of BP's interest  
Hilcorp operated





# December 1, 2014 ADN Headline

## Hilcorp will pursue Liberty development ★

With 50 percent interest in field, plan will be submitted to regulators this year.

By ALAN BAILEY  
Petroleum News

Having purchased a large slice of BP's interests in four BP northern Alaska oil fields, Hilcorp Alaska is going to file a new proposed plan of the development for the Liberty field, offshore in the Beaufort Sea.

Hilcorp has acquired a 50 percent interest in Liberty and is now the field operator. Hilcorp has also acquired all of BP's interests in the Endicott and Northstar fields in the Beaufort Sea and a 50 percent interest in the Milne Point field in the central North Slope.

During a presentation to the Resource Development Council's annual conference

on Nov. 19, Janet Weiss, president of BP Exploration (Alaska) Inc., said that the deal to sell BP assets to Hilcorp had closed on Nov. 18. The sale of the assets would enable BP to focus its efforts on the huge Prudhoe Bay field, Weiss said.

"It allows us to focus really operationally on what we do best strategically, and that's giant fields and big gas value chains," Weiss said, hinting at BP's involvement in a project to export North Slope natural gas via a proposed gas pipeline from the Slope and a liquefied natural gas plant in Southcentral Alaska.

In reference to the undeveloped Liberty field, Weiss said that Hilcorp has developed "a great concept" that can make the project more competitive than previously thought.

"A little over a week ago we had together approached the

regulatory authorities about changing operatorship from BP to Hilcorp for the Liberty opportunity," Weiss said. "With that transfer of ownership they will be submitting a development and production plan proposal by the end of the year to the regulators, such that we can keep this opportunity moving forward."

### LIBERTY PLAN AN 'ADD-ON'

Hilcorp has confirmed to Petroleum News that the company will be filing a plan for Liberty.

"Hilcorp is now the named operator of the Liberty development," company spokeswoman Lori Nelson said in a Nov. 24 email. "Hilcorp will be submitting the development and production plan to regulators before the end of the year. We will be working through the initial permitting process during 2015 but no decisions

have been made about bringing the project online."

During his speech to the Resource Development Council's conference, Greg Lalicker, president of Hilcorp Energy, characterized Liberty and other potential new Alaska Arctic ventures, such as the development of heavy oil at Milne Point or conducting new exploration, as of interest to his company but as "add-ons to our basic business." The company's core business consists of conducting many small projects in very mature fields, to deliver more oil and gas from those assets, Lalicker said.

### 'HUNDREDS OF LITTLE PROJECTS'

Essentially, on the North Slope Hilcorp will adopt the same strategy as it has been employing in the Cook Inlet

See Page B-3, **LIBERTY**

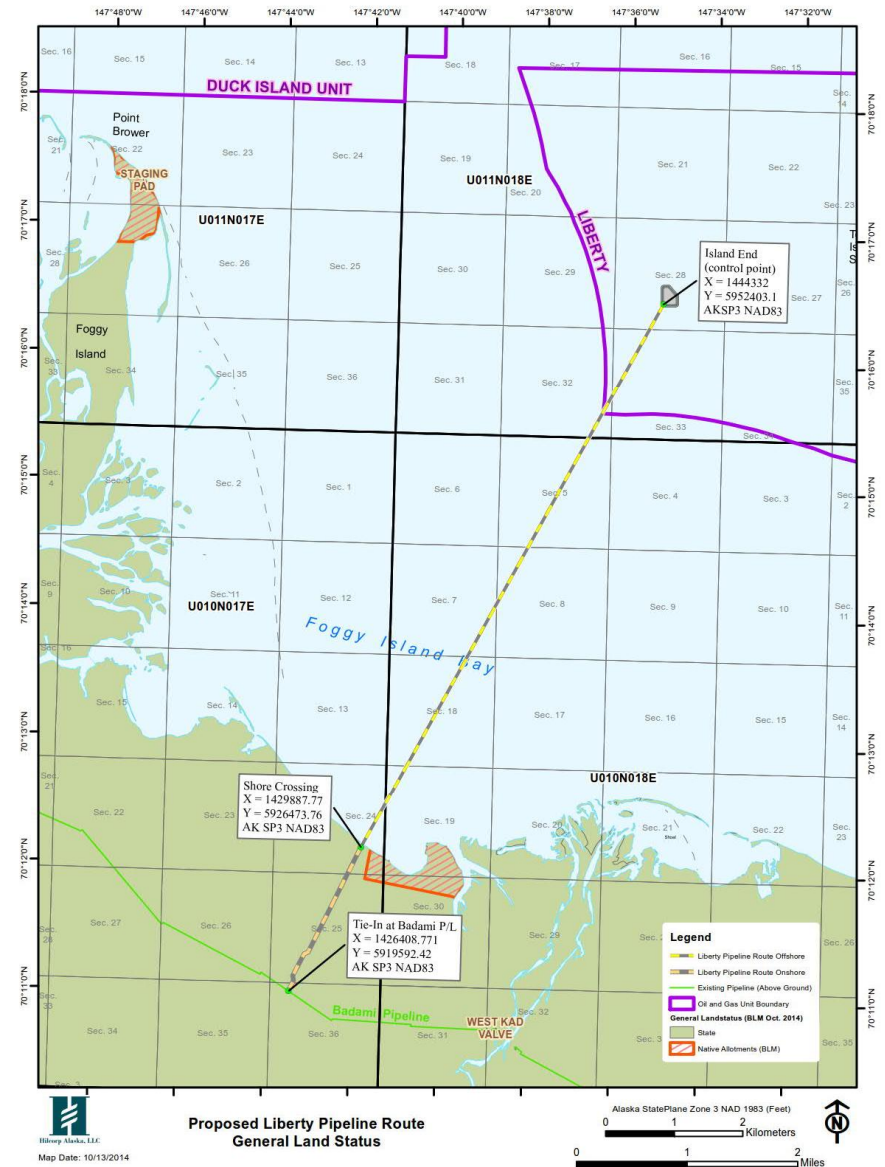
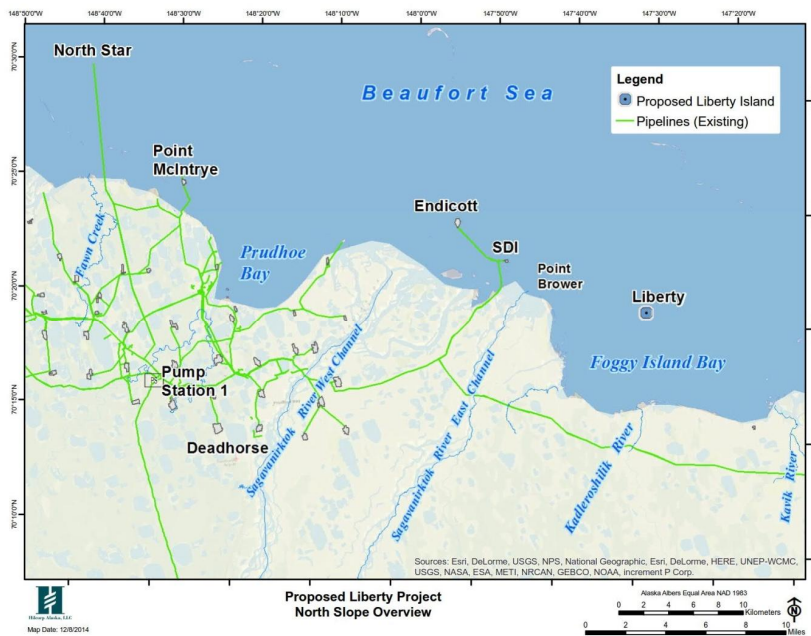
\* Contingent on:

- Regulatory review and approvals, and
- Investor re-evaluation and approvals





# Liberty Location

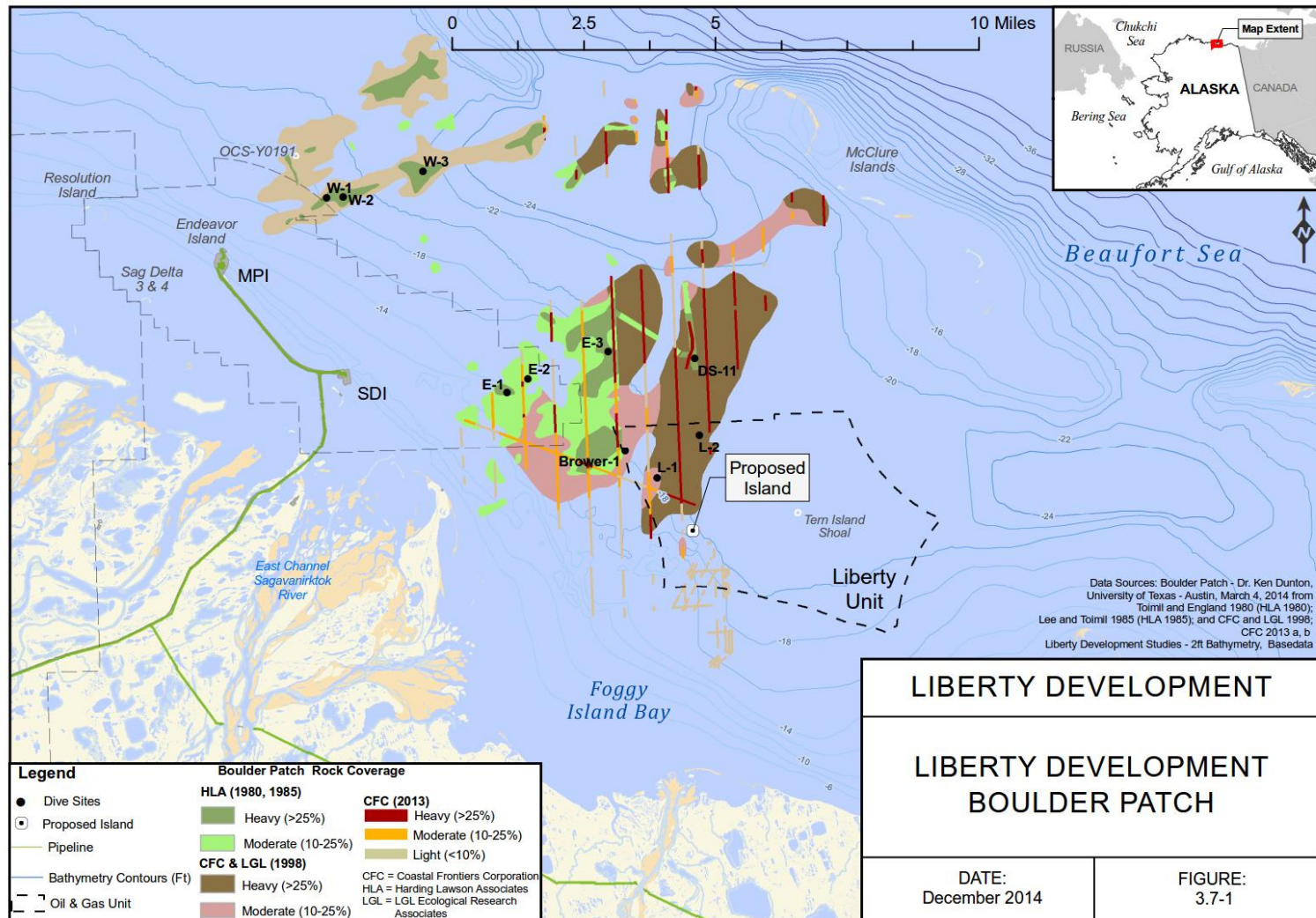




# Liberty Location, Boulder Patch

Liberty Development and Production Plan

Appendix A - Environmental Impact Analysis





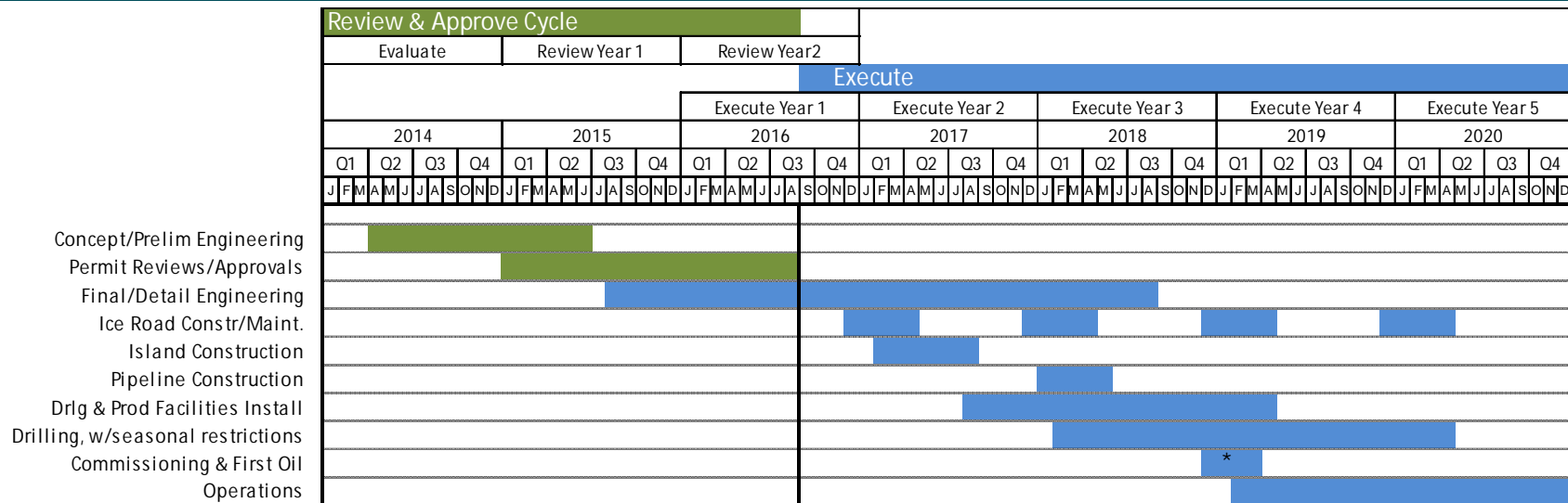


# Proposed Liberty Drilling & Production Island

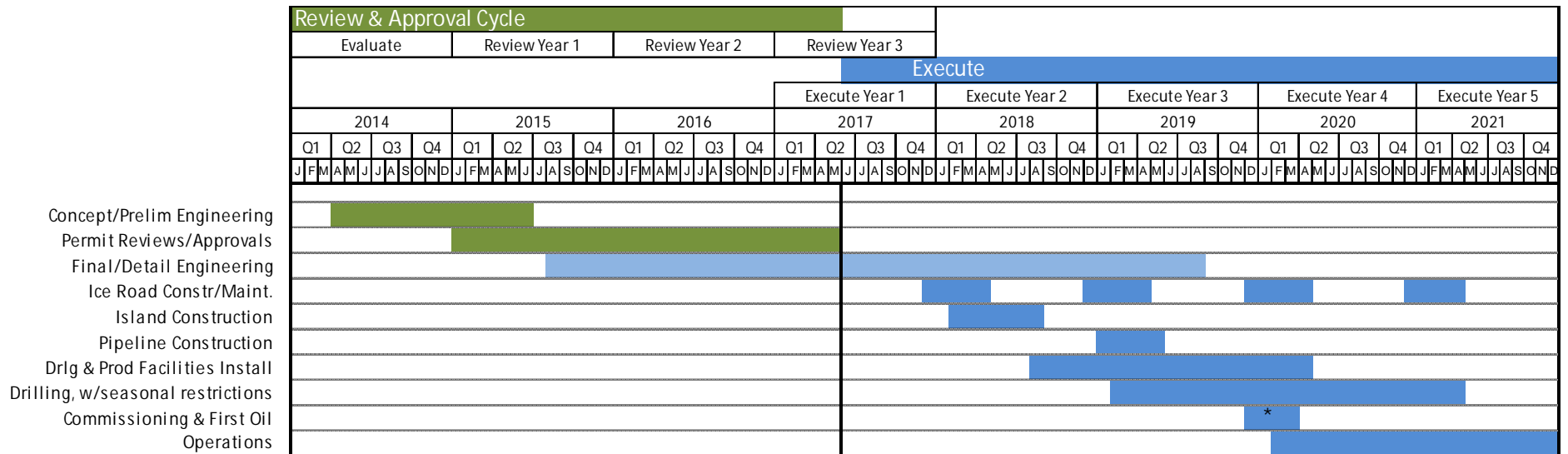




# Potential Project Schedules



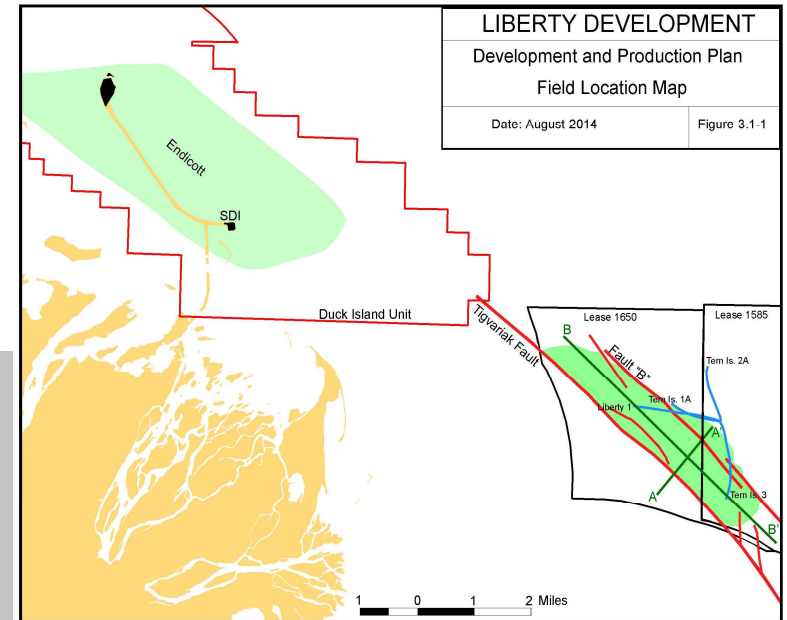
Most Likely Approval Timeline: Early to Mid 2017 Approvals, Go or No Go Decision Following



*Upon approvals and ROD, investors will re-evaluate the project costs and assess long lead items to determine if or when to proceed.*

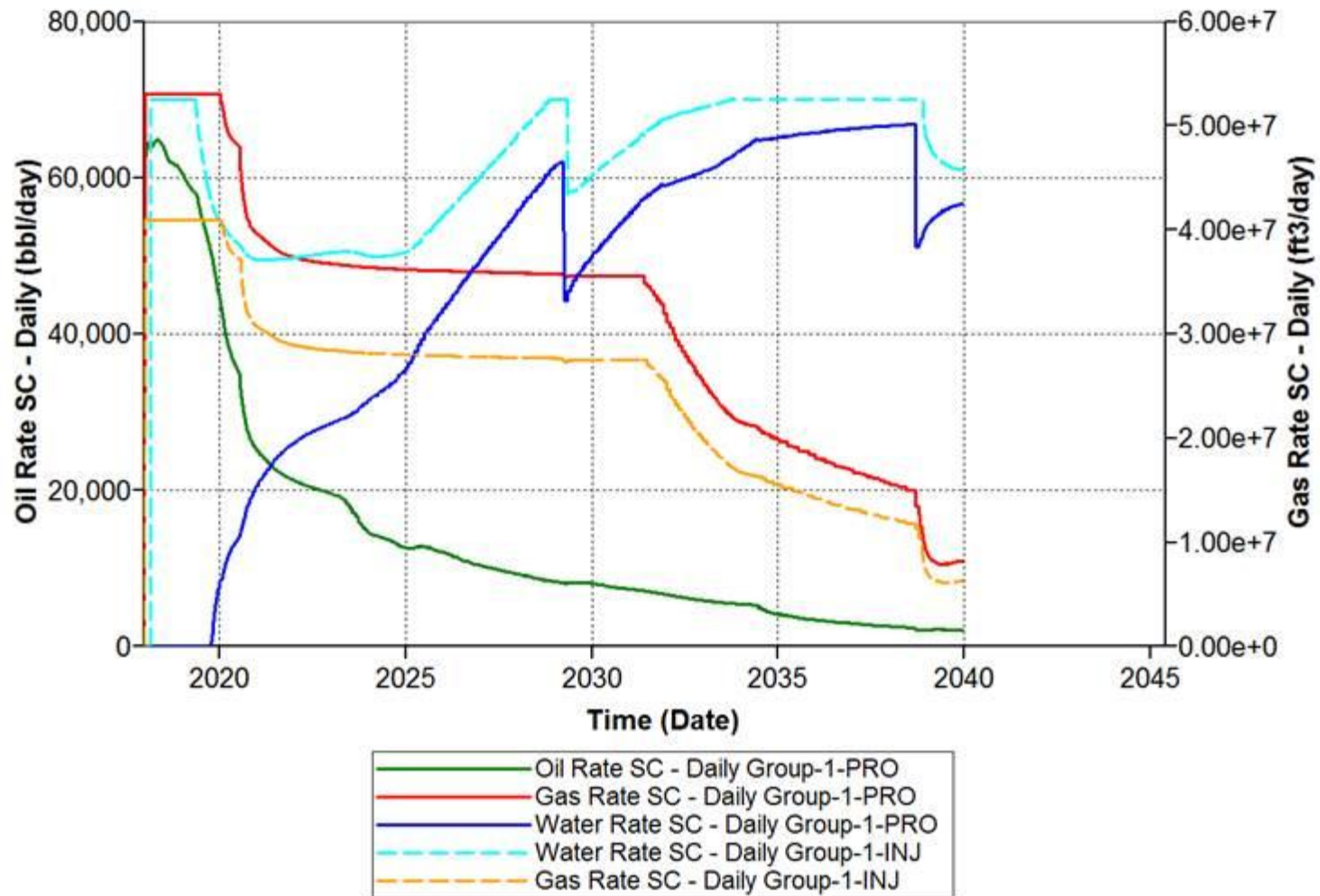


# Subsurface Depletion Plan





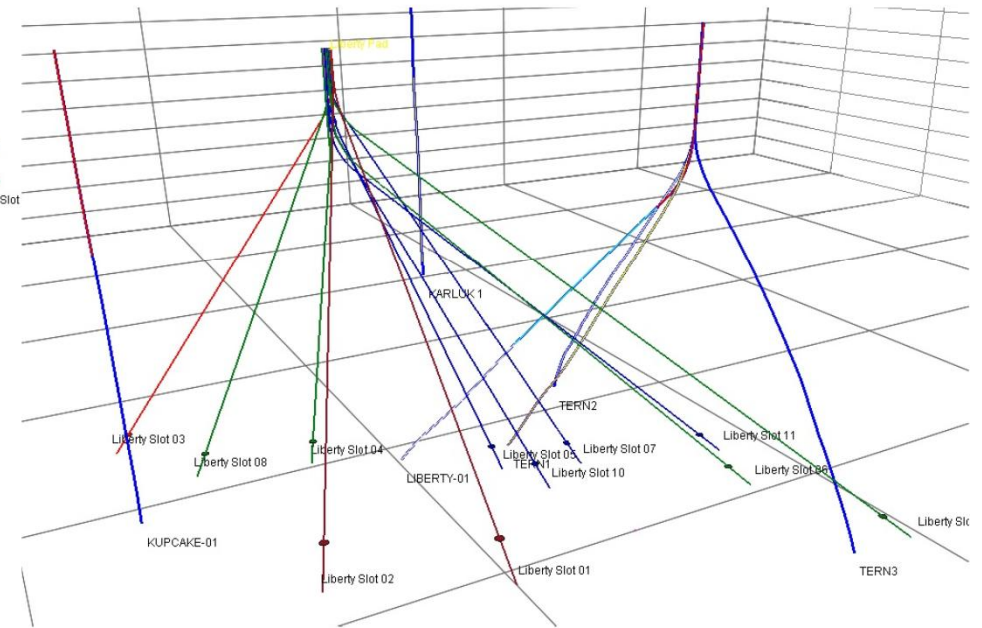
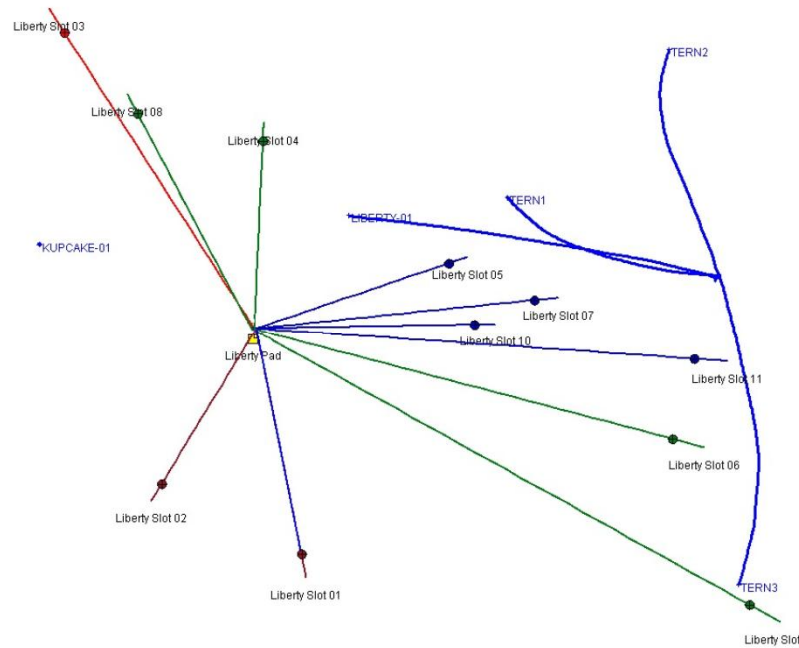
# Rate Profile







# Drilling “Spider Plot”



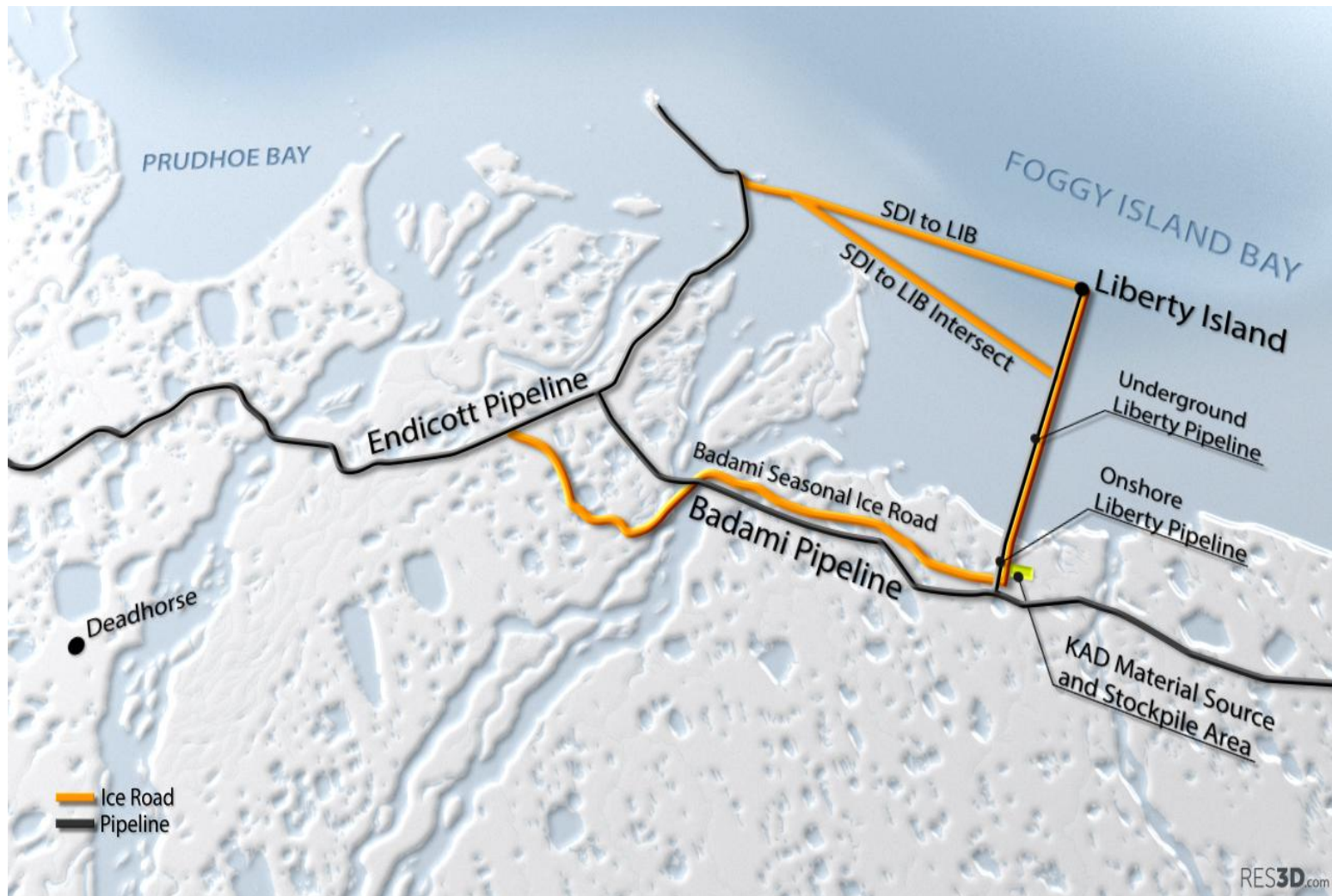




## Project Access

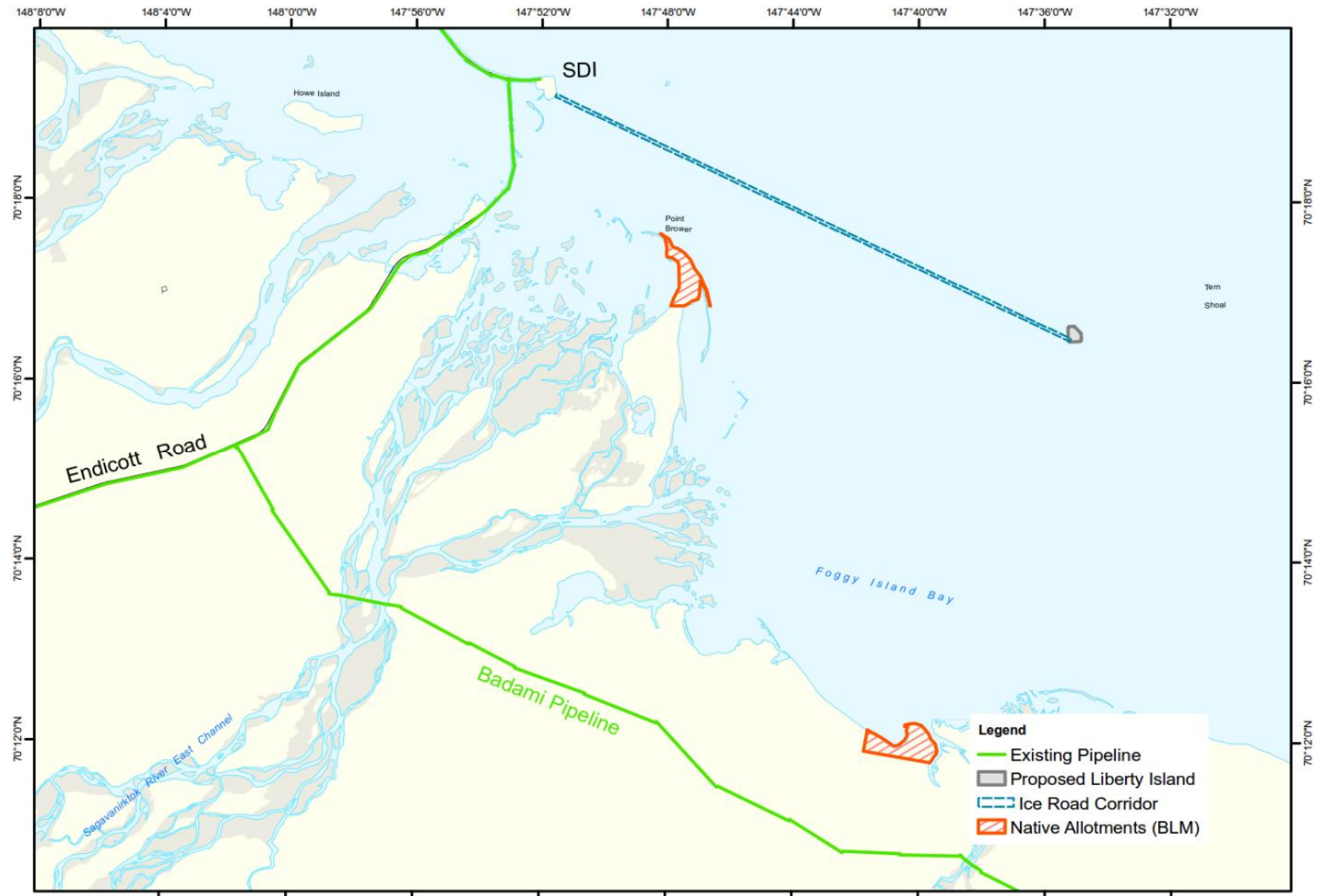


# Project Access, Winter Construction



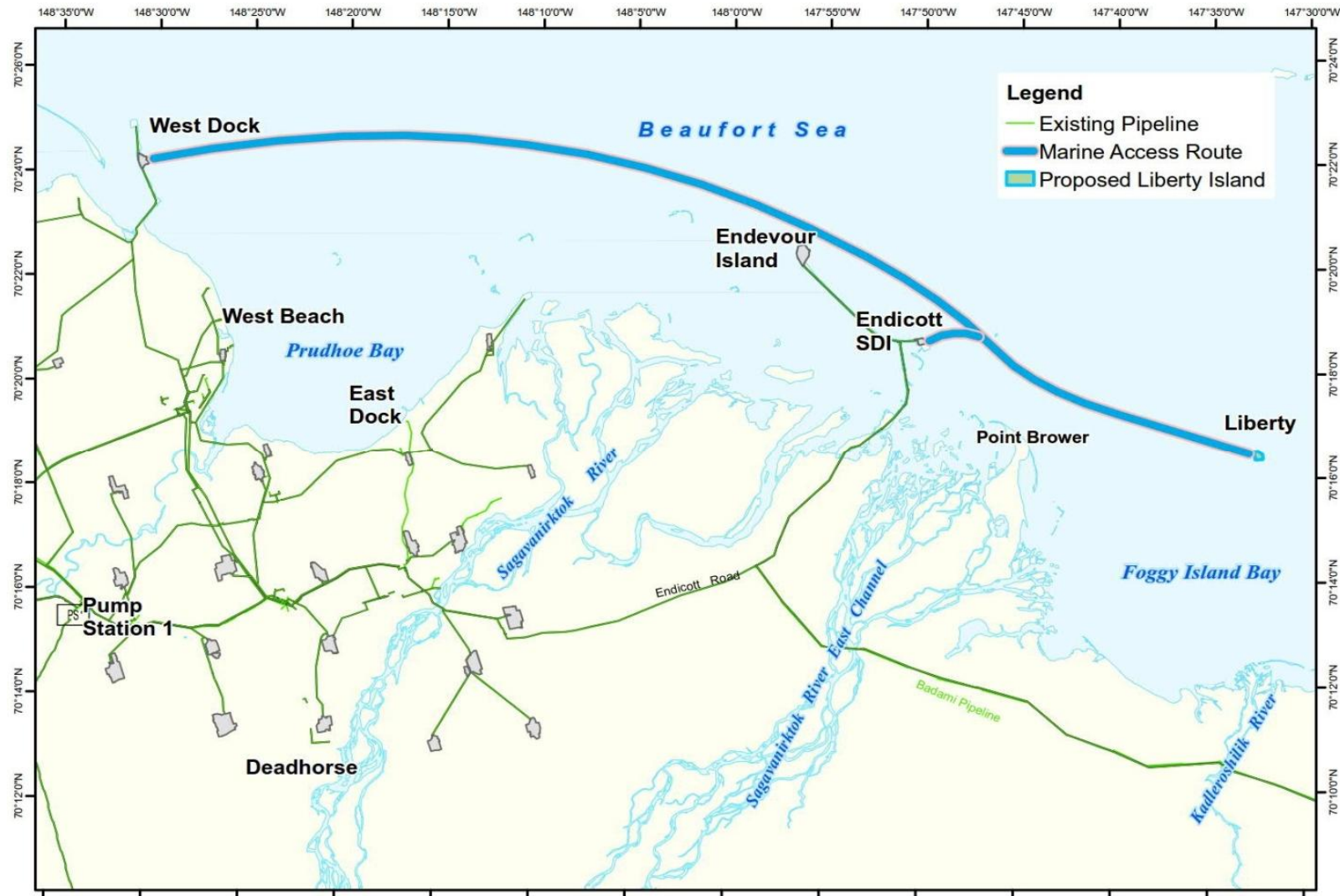


# Project Access, Winter Operations





# Project Access, Summer





# Artificial Island Design, Construction





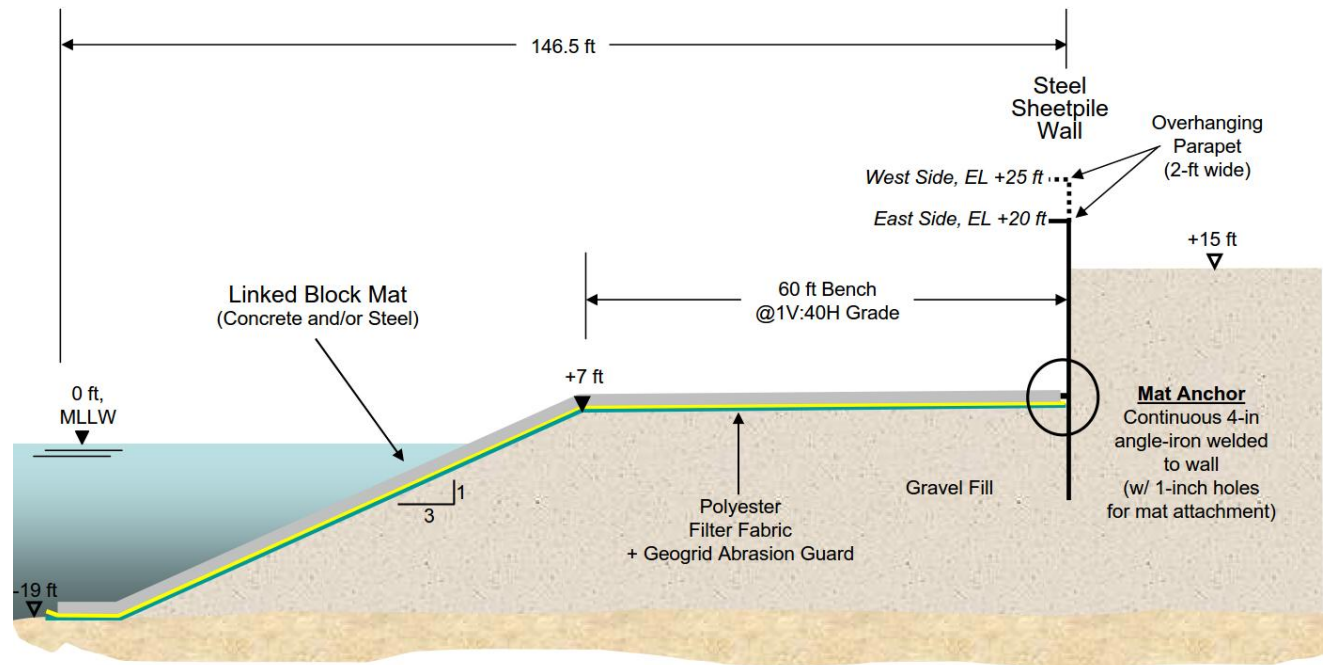
# Gravel Island Design Basis

## Primary Design Factors

- Forces are ocean waves and currents
- Water depth (19')
- Surge elevations
  - 200 year events (westerly +3.9ft for 10 year event, +5.8 ft. for the 200 year)
  - Easterly waves are smaller
- Wave action (height & periods)
- Wave height substantially less at Liberty compared to Northstar (double)

## Ice

- Ice movement east and west due to barrier islands to the north:
- Multiyear ice not a factor
- Historical Data





# Comparable Projects



Northstar Island  
Drilling & Production  
Peaked at 70,000 BOPD  
Year Constructed: 2000  
Work Area Acres: 6  
Water Depth: 40'  
Subsea Pipe Distance: 6.0 miles  
Onshore Pipe Distance: 11.5 miles



Oooguruk Island  
Drilling & Production  
Year Constructed: 2007  
Work Area Acres: 6  
Water Depth: 4'  
Subsea Pipe Distance: 5 miles  
Onshore Pipe Distance: <1 mile



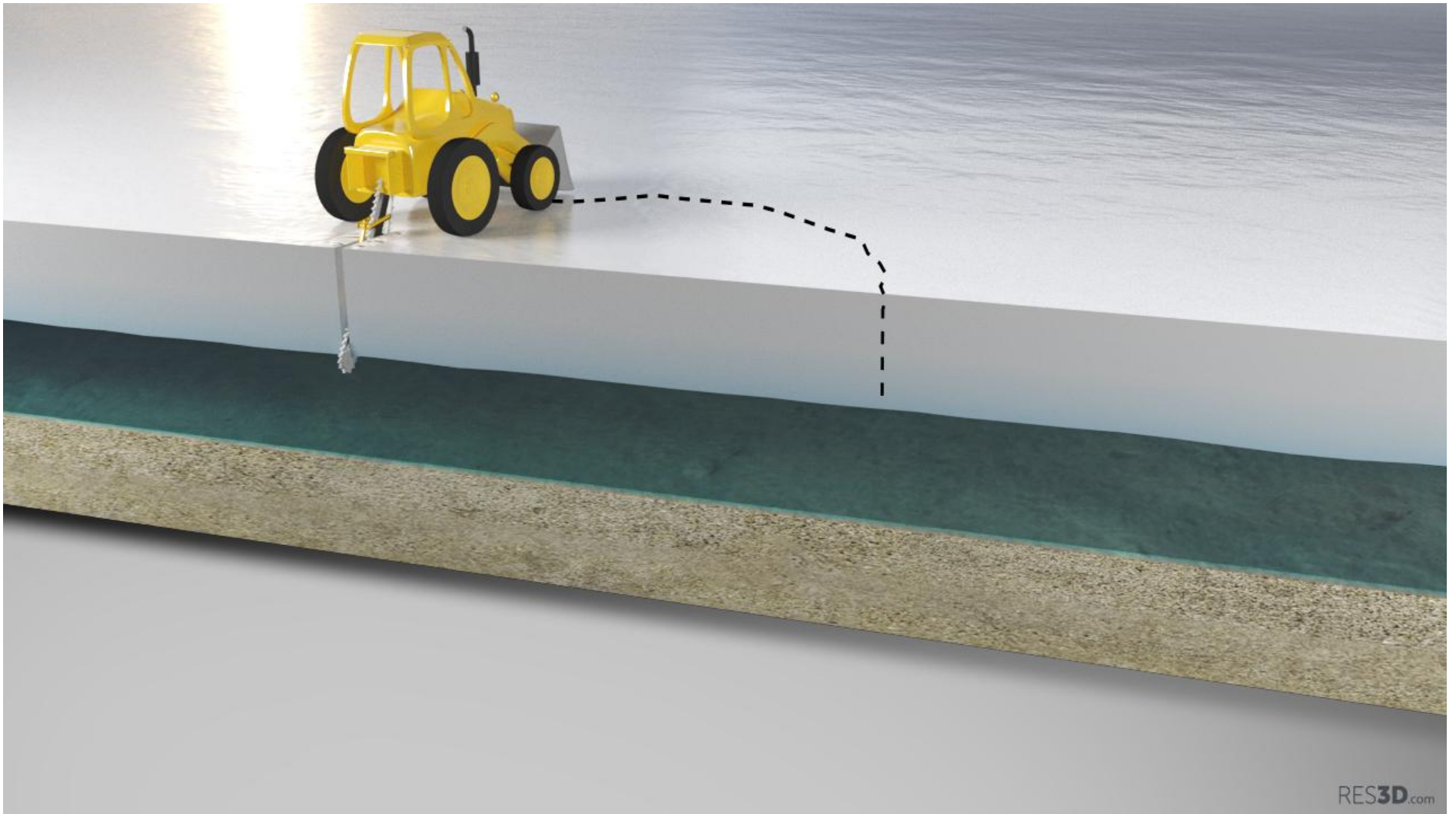
Liberty Island  
Drilling & Production  
60,000 BOPD  
Constructed: 2017  
Work Area Acres: 9.3  
Seafloor Area Acres: 24  
Water Depth: 19'  
Subsea Pipe Distance: 5.6 miles  
Onshore Pipe Distance: 1.5 miles



Nikaitchug Island (Spy Island Dev – SID)  
Constructed: Completed 2011  
Work Area Acres: 10  
Water Depth: 8'



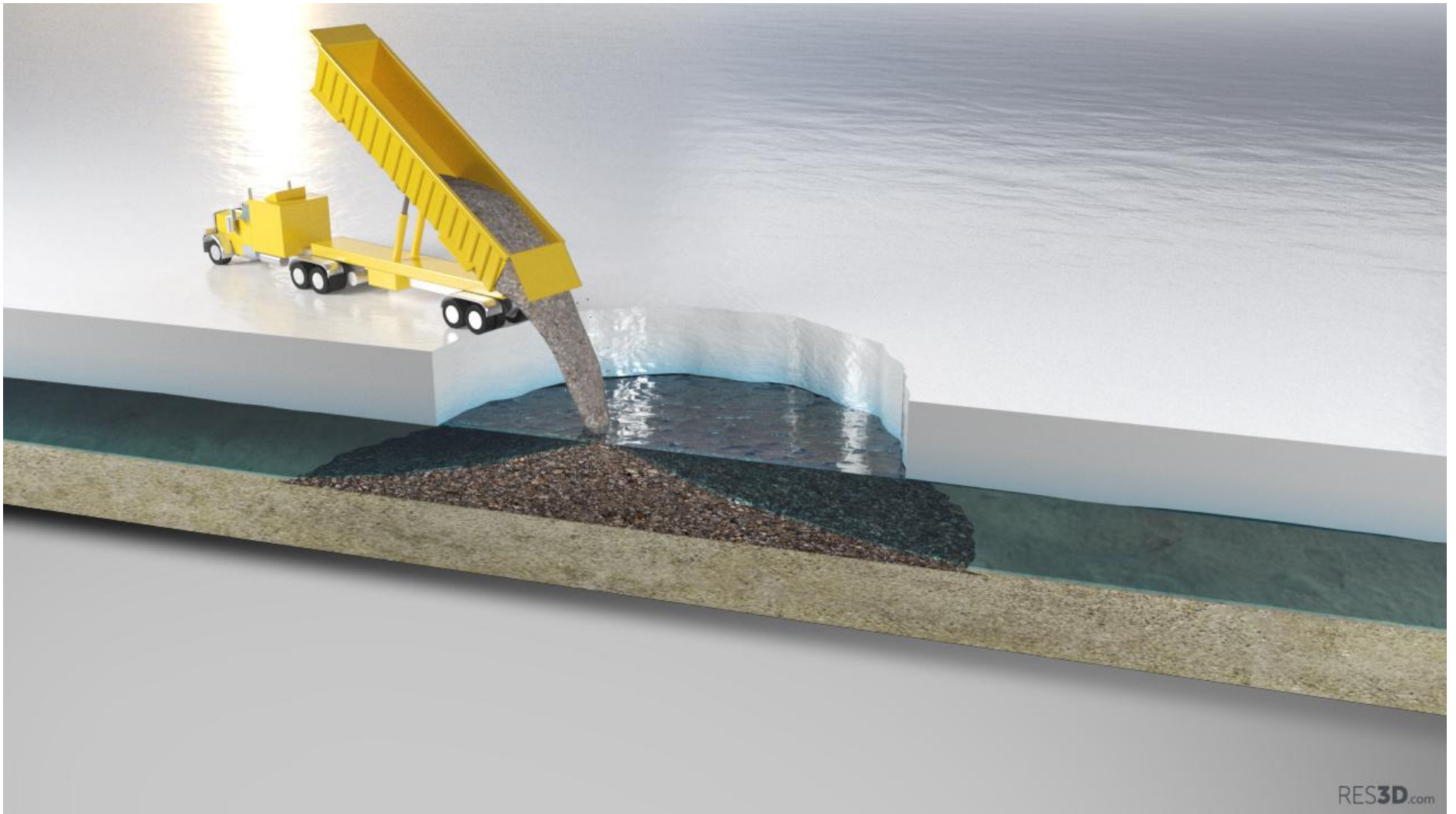
# Island Construction – Cut Sea Ice





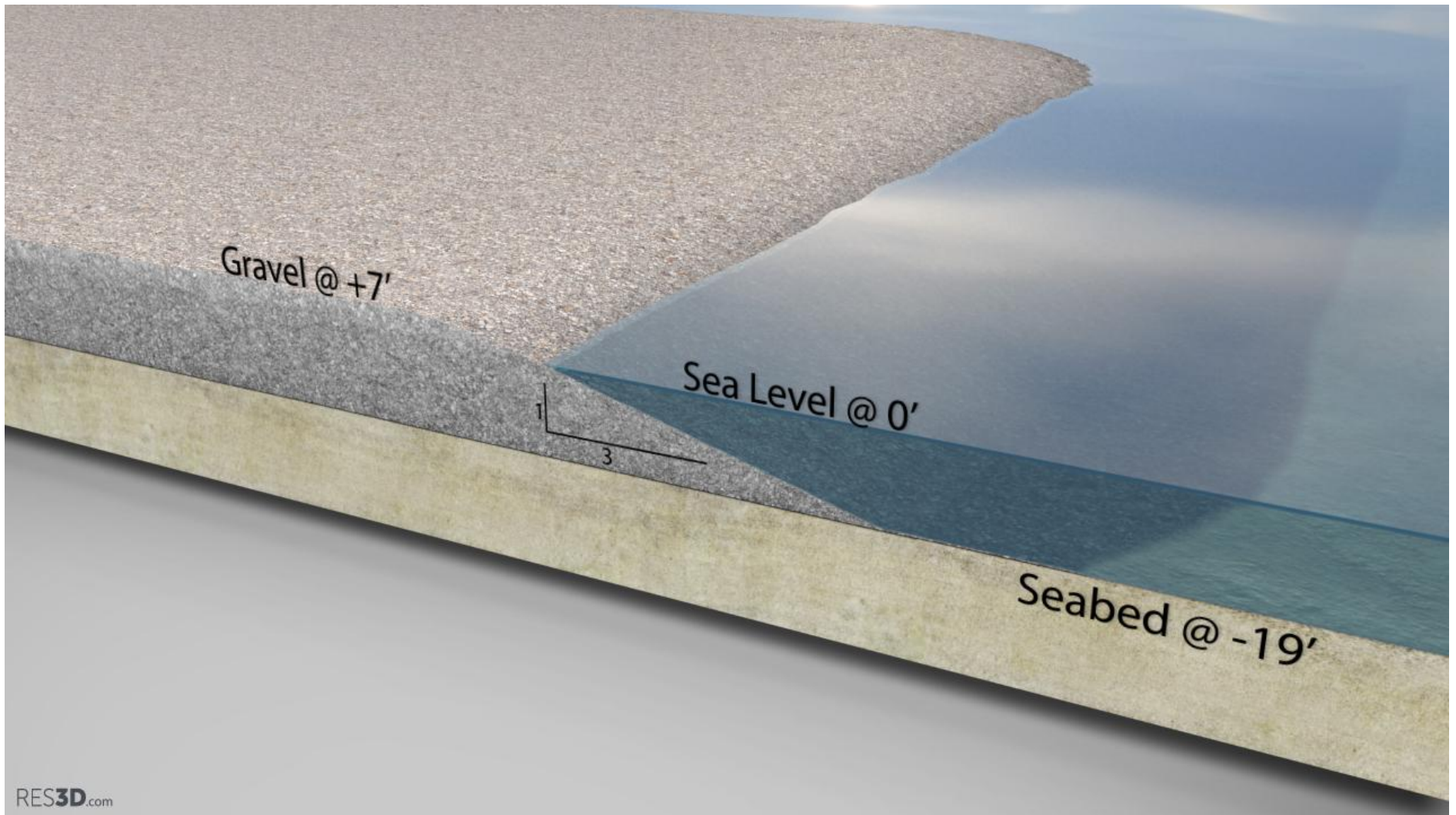


# Island Construction – Gravel Fill





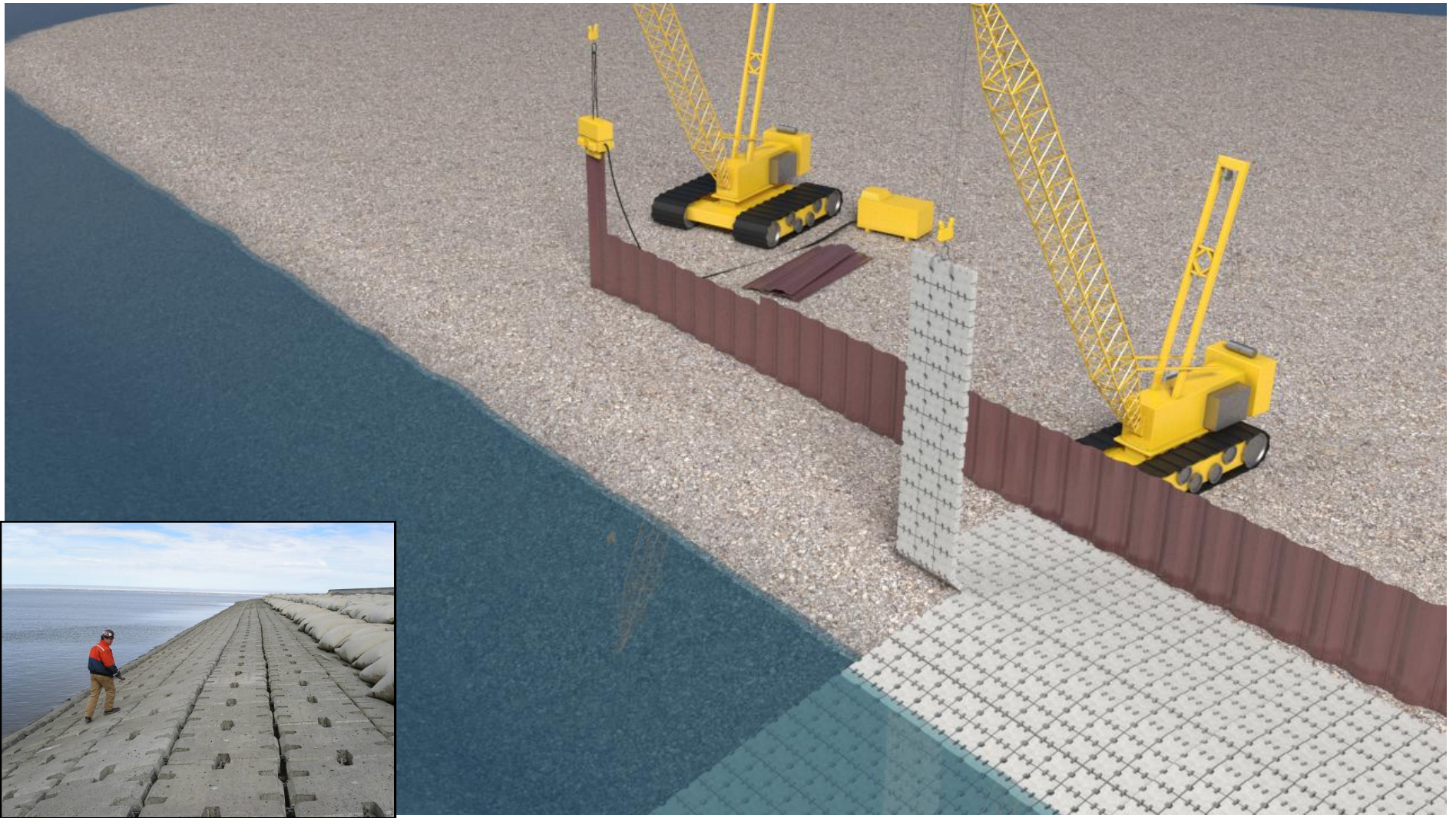
# Island Construction – Water Depth





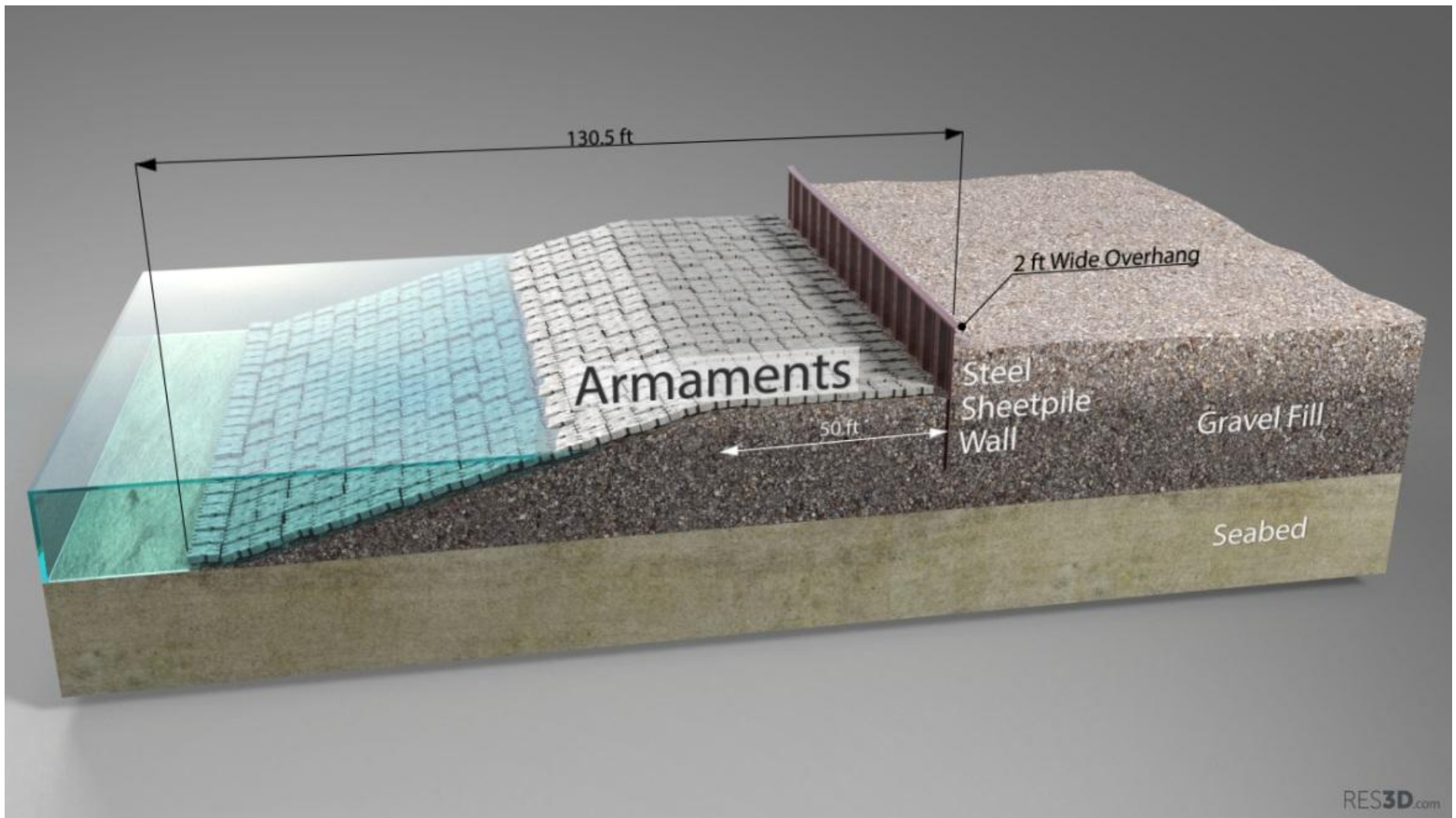


# Island Construction – Armor





# Island Protection



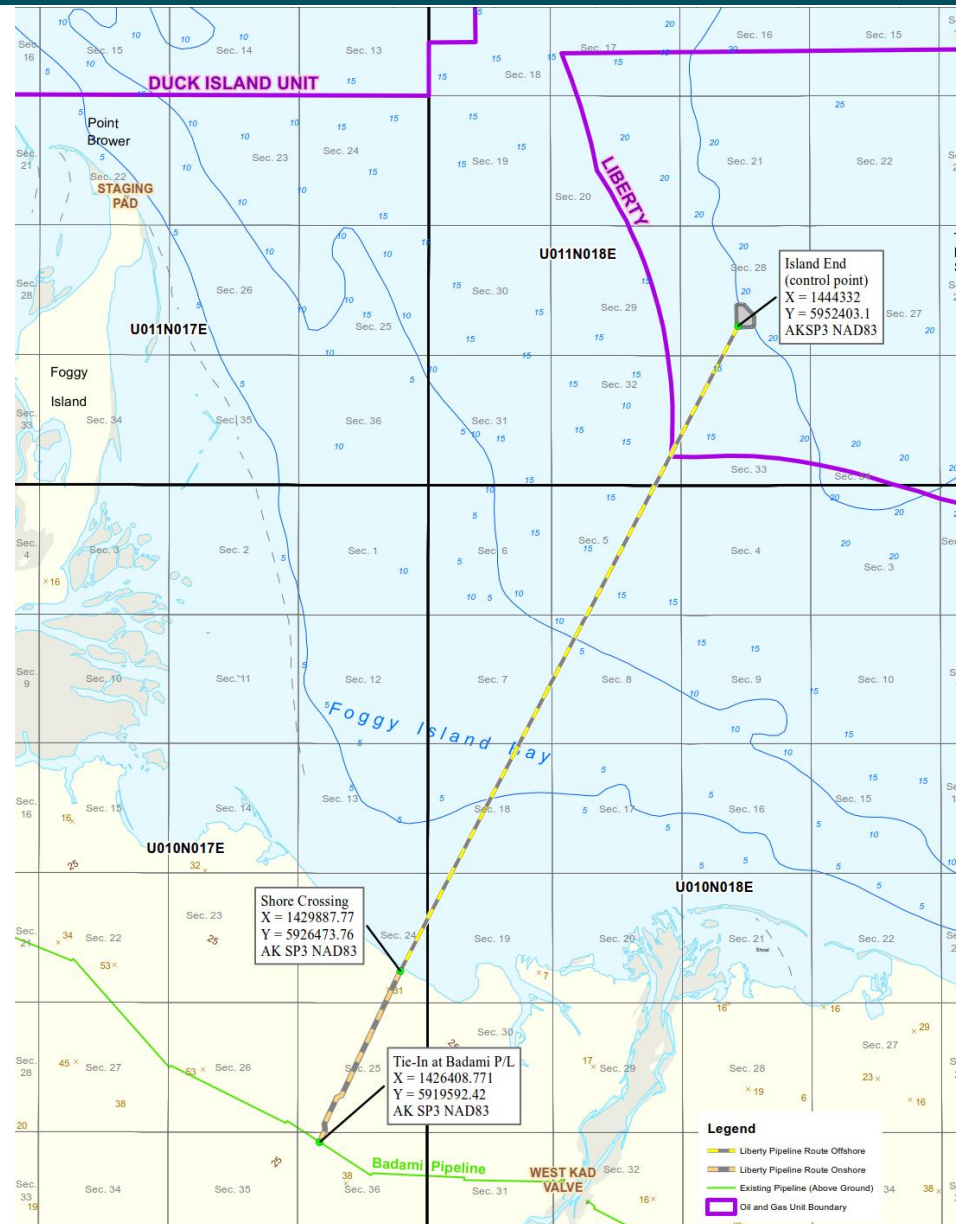


Pipeline



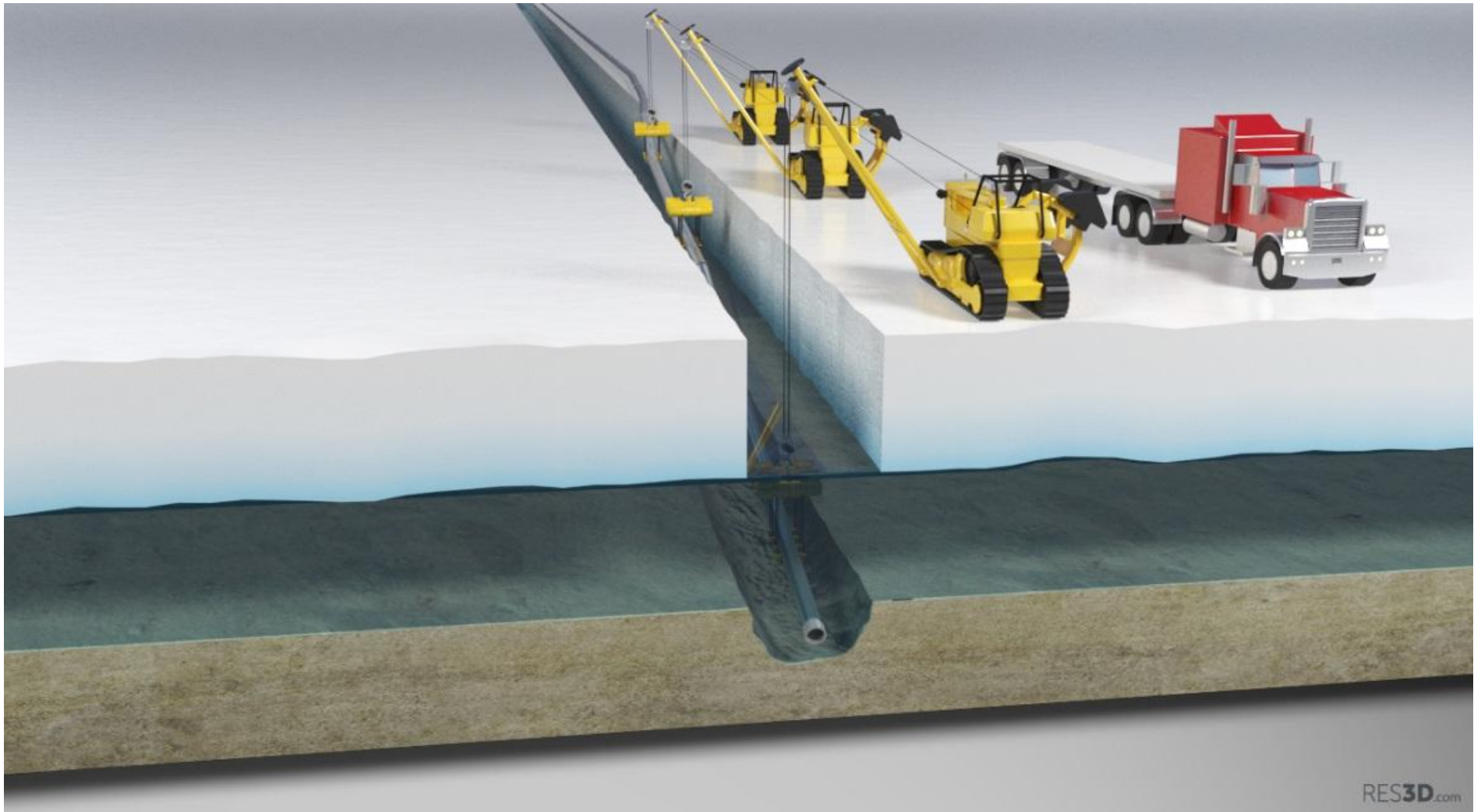


# Pipeline Route





# Subsea Pipeline Installation







# Example Pipe Bundle from Oooguruk





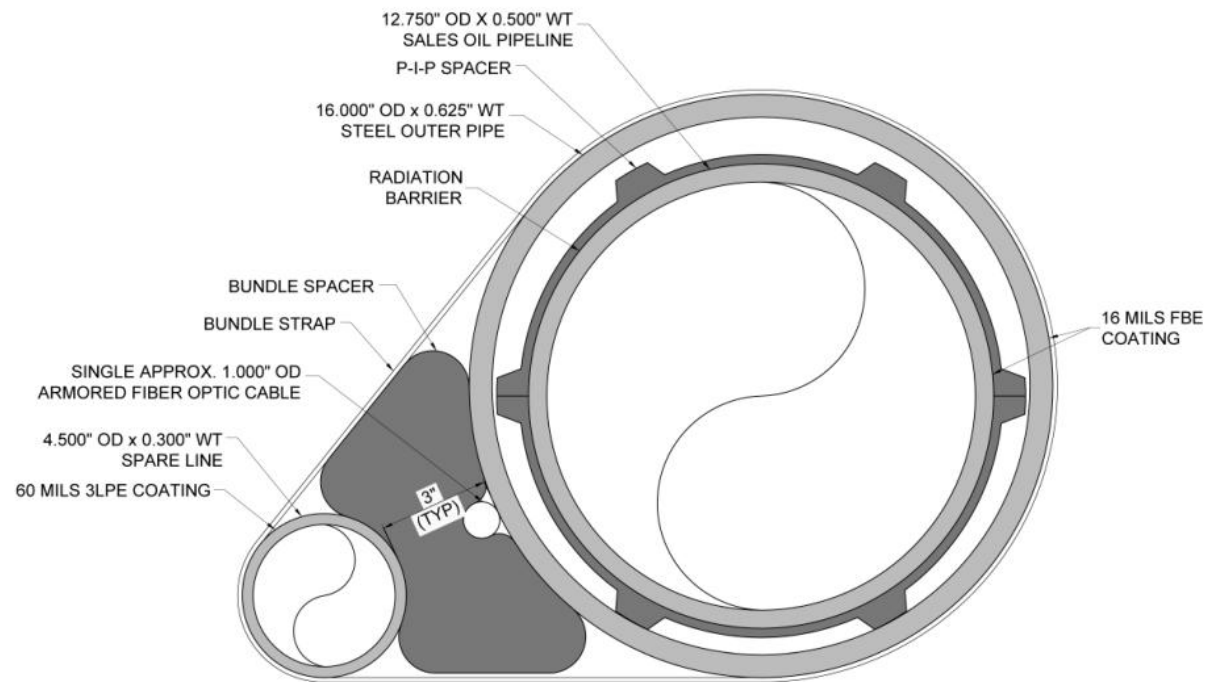
# Subsea Pipeline Design Parameters

## Overview

- 5.6 miles subsea installation transitioning to onshore
- Bundle (PIP) - 16" steel pipe, 12" steel sales oil, 4" utility, 1" armored fiber optic
- Custody Transfer metering at LDPI
- Flow meter at Badami tie in
- Leak detection
  - Annulus Monitoring
  - Mass balance and pressure monitoring (1% of volumetric flow).
  - Temperature monitoring with Fiber optic

## Design Basis

- Strain Based Design
  - Upheaval Buckling
  - Strudel Scour
  - Ice Keel
  - Thaw settlement
- PHMSA regulated
- Cathodic protection





# Onshore Pipeline System

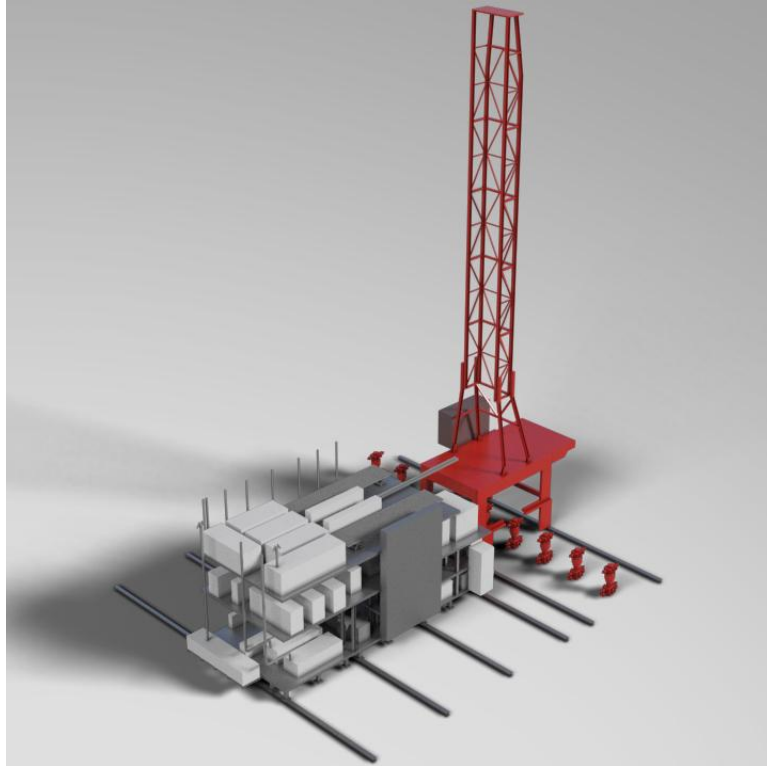




Drilling



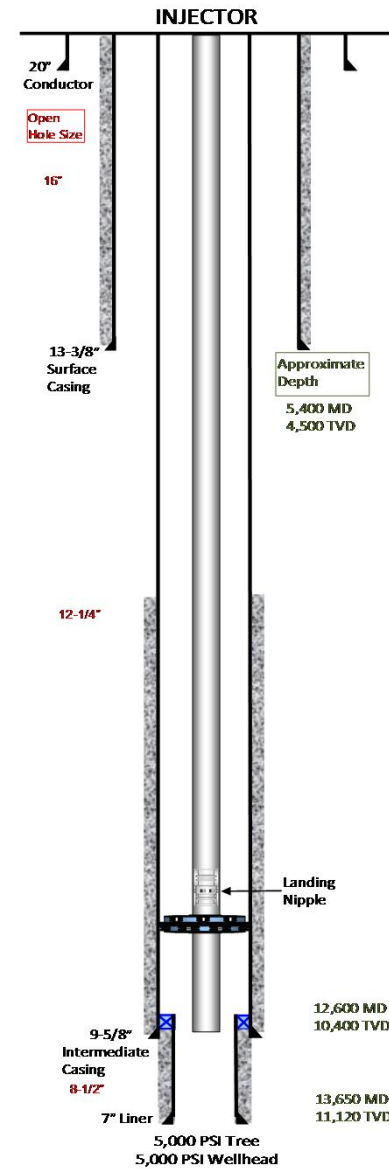
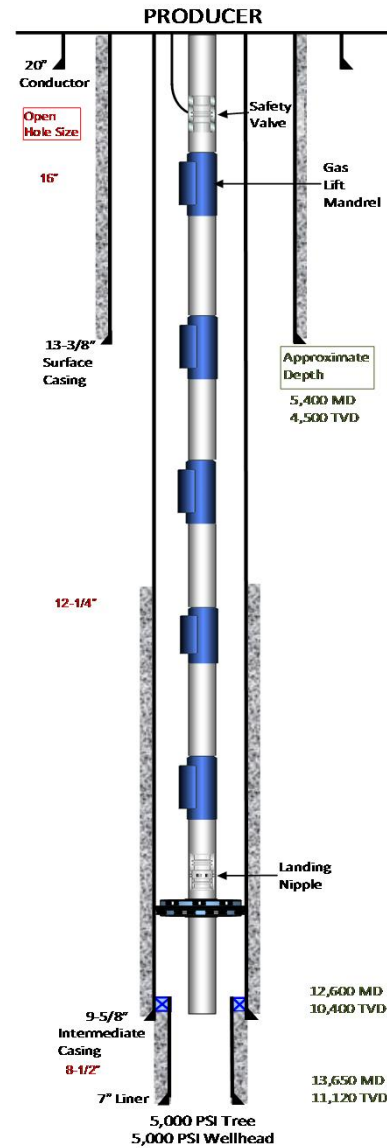
# Drilling Rig Options







# Typical Well Design





# Safety Equipment & Well Control

- Drilling Fluid System – Spud mud for surface hole, Low Solids, Non Dispersed (LSND) for intermediate and production holes. Fluid density maintained at 9.5 – 10 ppg while drilling reservoir.
- Well Control & Kick detection equipment:
  - Diverter system for surface hole drilling.
  - 13-5/8” x 5M BOP for drilling intermediate & production hole.
    - 3 Ram + Annular, one ram equipped with blind rams.
  - PWD, PVT system, flow-show, Gas detection systems for early kick detection.
- Conduct regular training and drills to increase crew competency, Regular BOP tests.



# Surface Facilities



# Design Basis



## Oil Production

- 60,000 – 70,000 BOPD @ peak production
- 5-9 Production Wells



## Sea Water

- 80,000 BWPD injected @ 2,500 psig
- 3-5 Injection Wells



## Produced Gas

- Fuel Gas: 12-15 MMSCFD @ 600 psig
- Lift Gas: 20 MMSCFD @ 2,400 psig
- Injection Gas: 100MMSCFD @ 4,600 psig



# Truckable Modules

- Take advantage of vendor knowledge and expertise
- Use well known engineering concepts
- Flexibility in production rates for lifetime of the field
- Reduce field fabrication
- Reduce excess structural steel for sealift modules
- 14' x 14 x 80' shipping envelope
- 160,000 pounds maximum loads





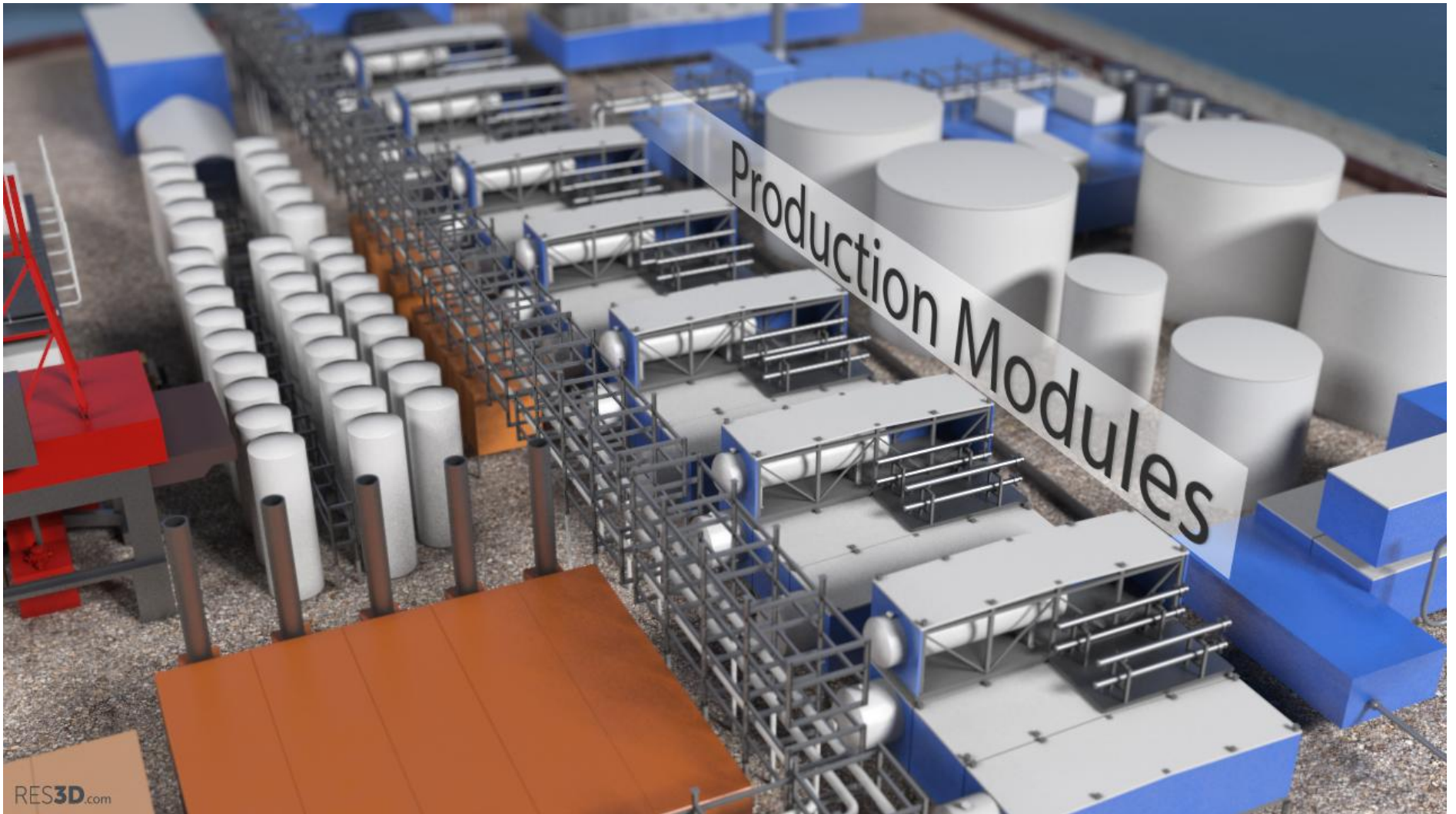


# Well Row





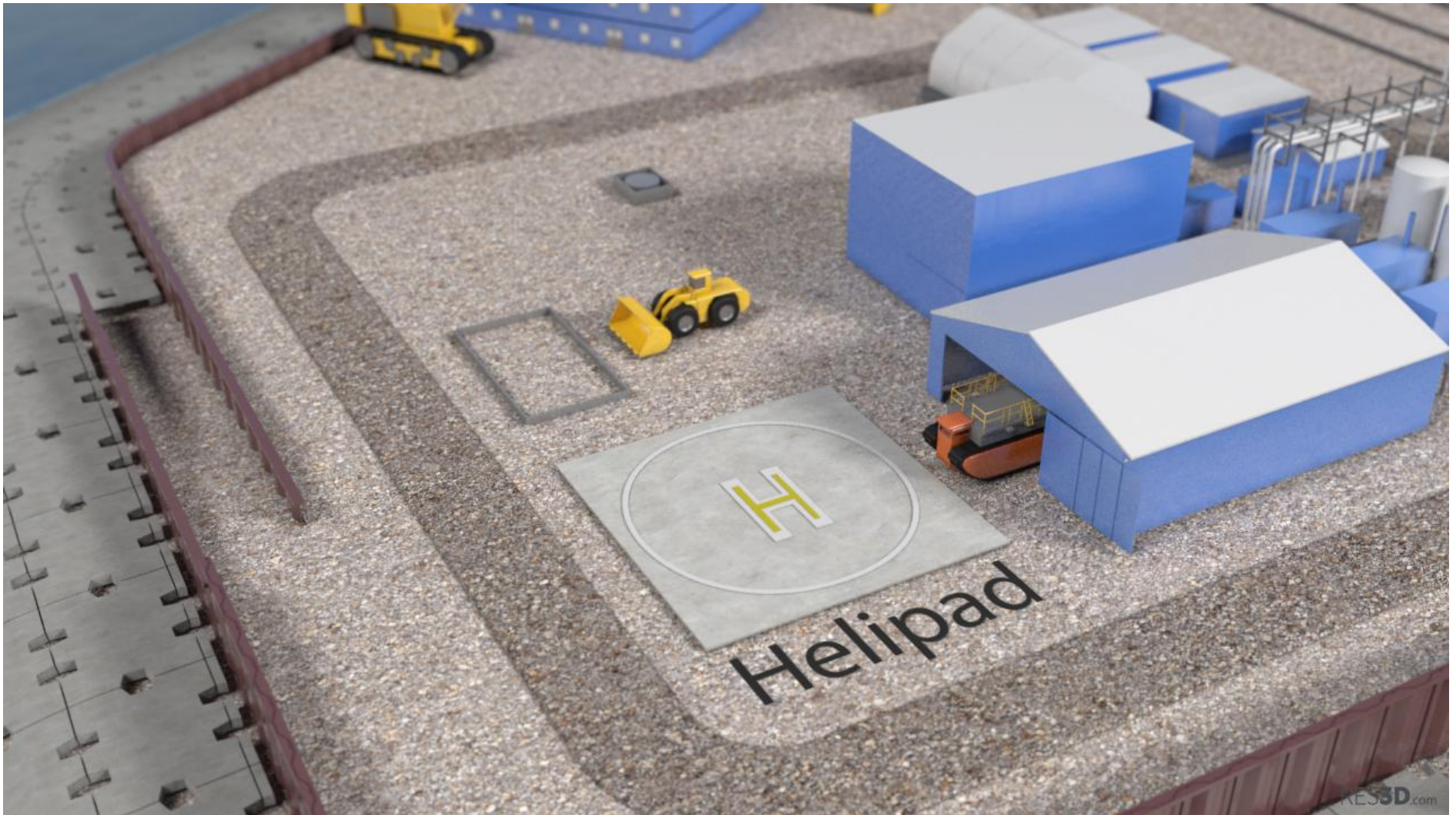
# Production Modules







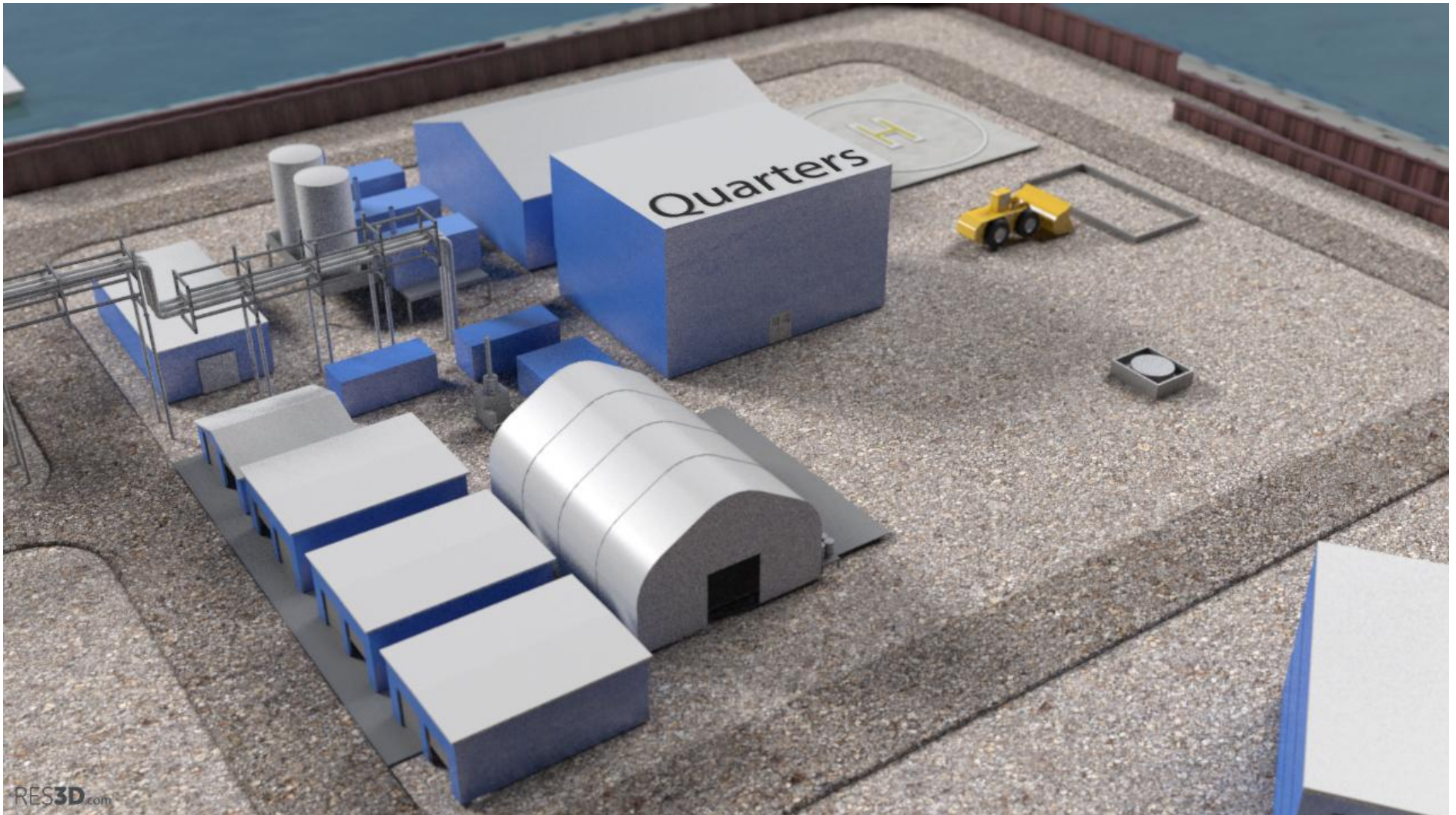
# Helipad & Arktos Storage





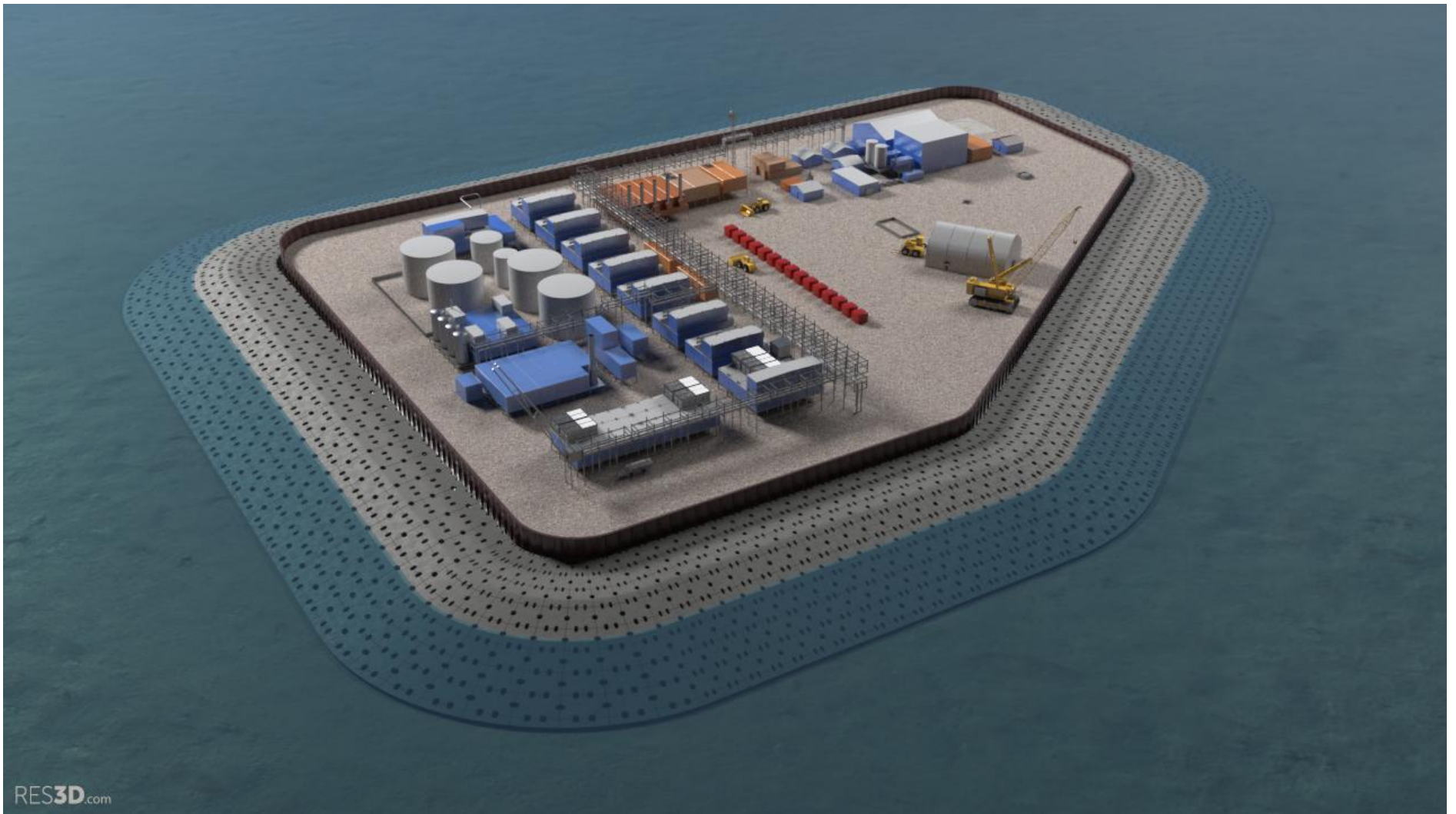


# Living Quarters





# Operations Mode, 3D Rendition







# Summary

- Hilcorp Alaska, LLC is the operator of the Liberty leases
- A DPP, EIA, and OSRP were submitted at year-end
- The goal is to design a project to extract the resource with minimal impact to the surface, marine, and air environment
- The proposed project utilizes conventional, proven technology to:
  - Build a gravel island
  - Trench and bury a subsea pipeline
  - Install onshore pipeline and tie into the Badami pipeline
  - Drill 12 – 16 wells
  - Install process facilities capable of delivering up to 65,000 bopd
- IF developed, the field will:
  - Deliver an estimated 100 MMBO over 15 – 25 years
  - Employ several hundred construction and operations personnel
  - Extend the life of TAPS

Alaska Eskimo Whaling Commission (AWEC) Mini-Convention  
Presentation

February 15, 2015



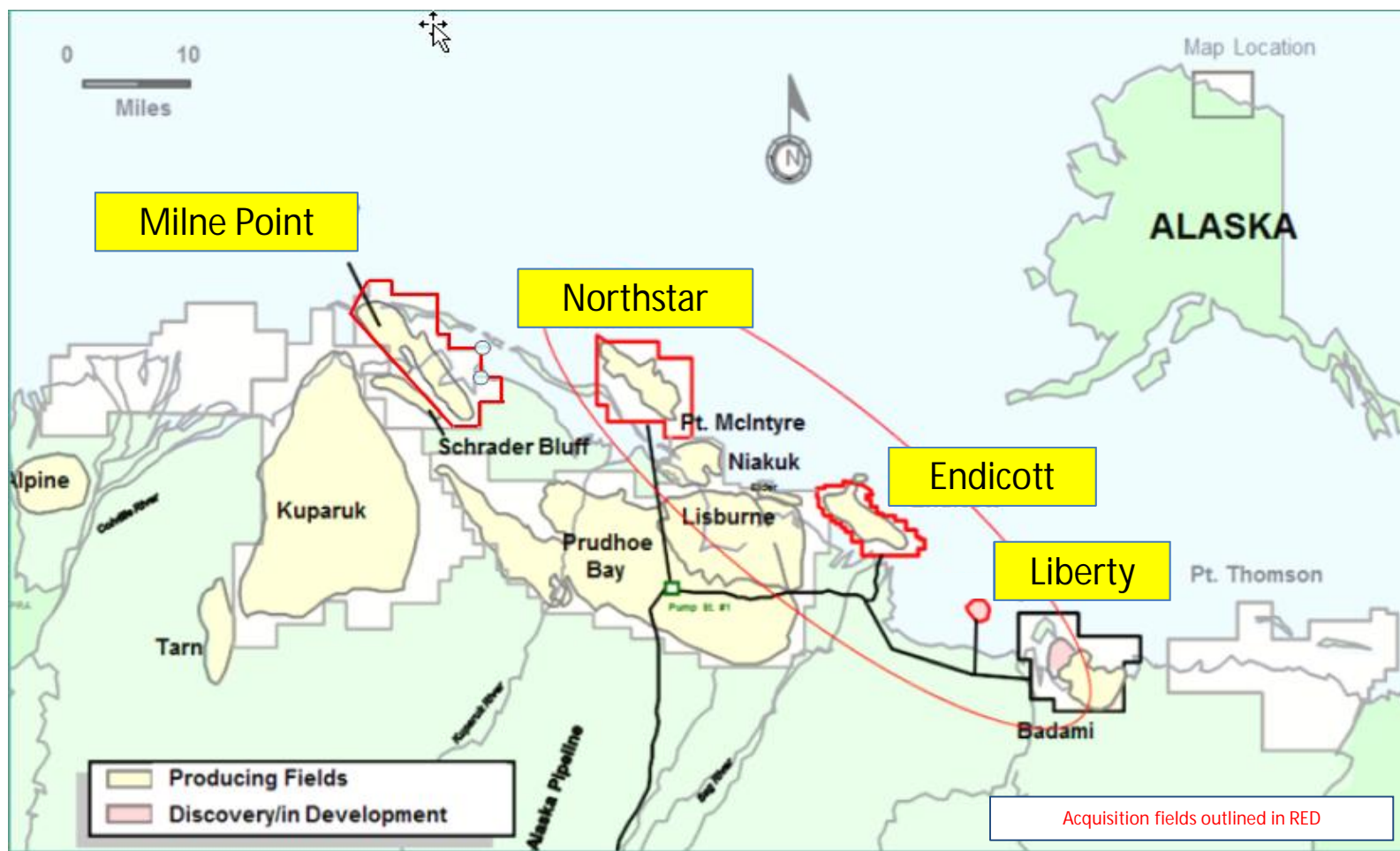
# Hilcorp Alaska



Integrity • Urgency • Ownership • Alignment • Innovation



# November 2014: Entered North Slope



MILNE POINT  
50% of BP's interest  
Hilcorp operated

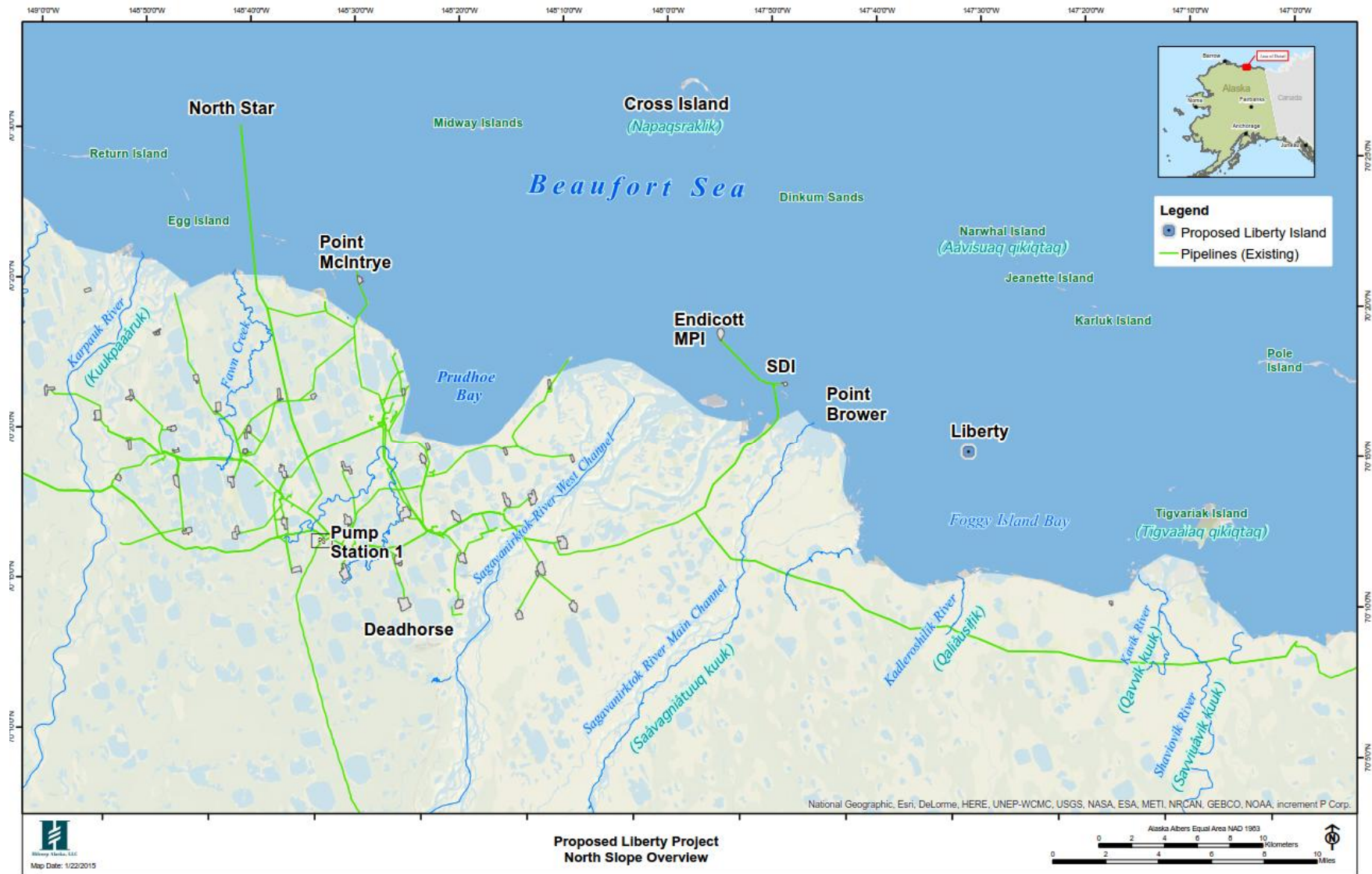
NORTHSTAR  
100% of BP's interest  
Hilcorp operated

ENDICOTT  
100% of BP's interest  
Hilcorp operated

LIBERTY DEVELOPMENT  
50% of BP's interest  
Hilcorp operated



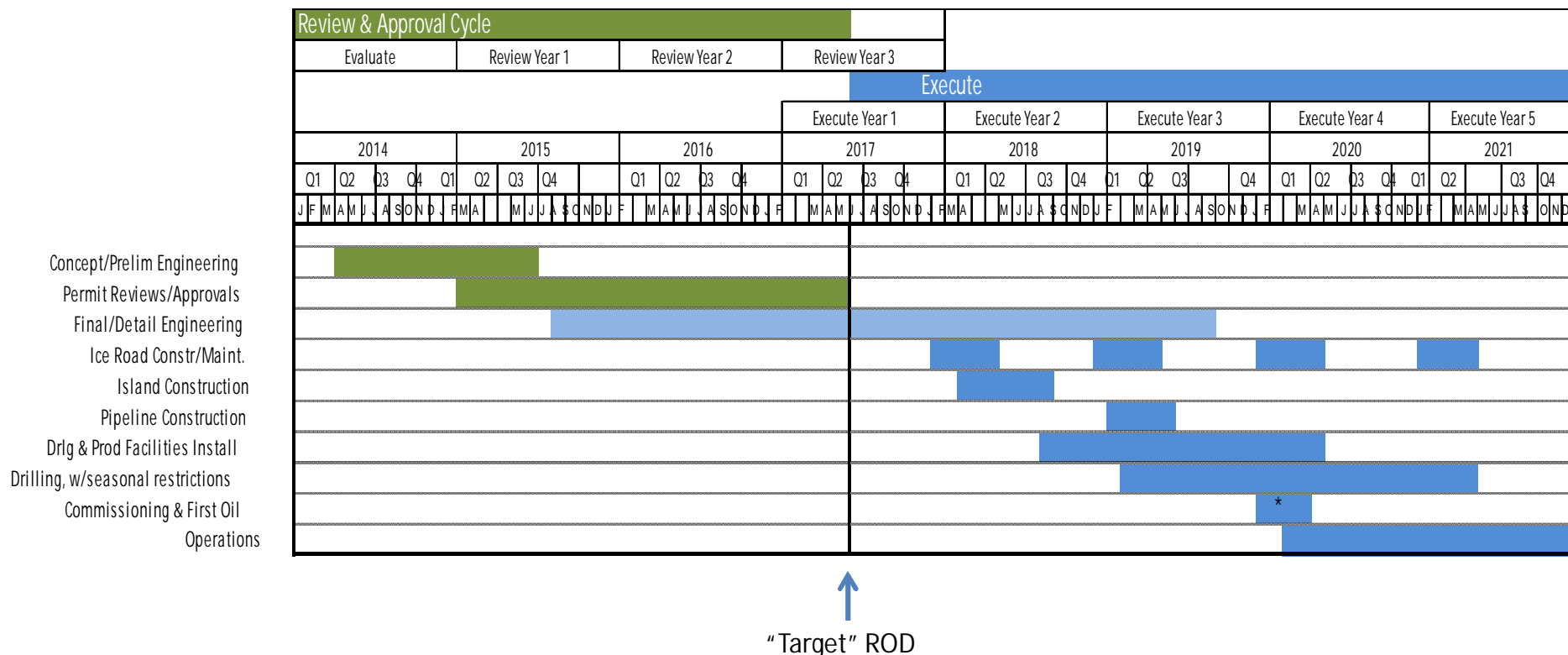
# Liberty Location







# Project Schedule



Following ROD, investors will re-evaluate the project costs and assess long lead items. If the project passes economic thresholds and material can be procured in time, project will be sanctioned for immediate execution. If the ROD occurs after August of a calendar year, construction is delayed to the next winter.



# 2015 Ancillary Activities

## Winter Activities:

- Onshore and offshore geotechnical borehole drilling.
- Alaskan Subsistence Advisor for seal lair detection.
- Utilize existing infrastructure (Pt. Thompson Ice Road).
- Anticipated start date: March 1.
- Project duration: approximately 30 days.

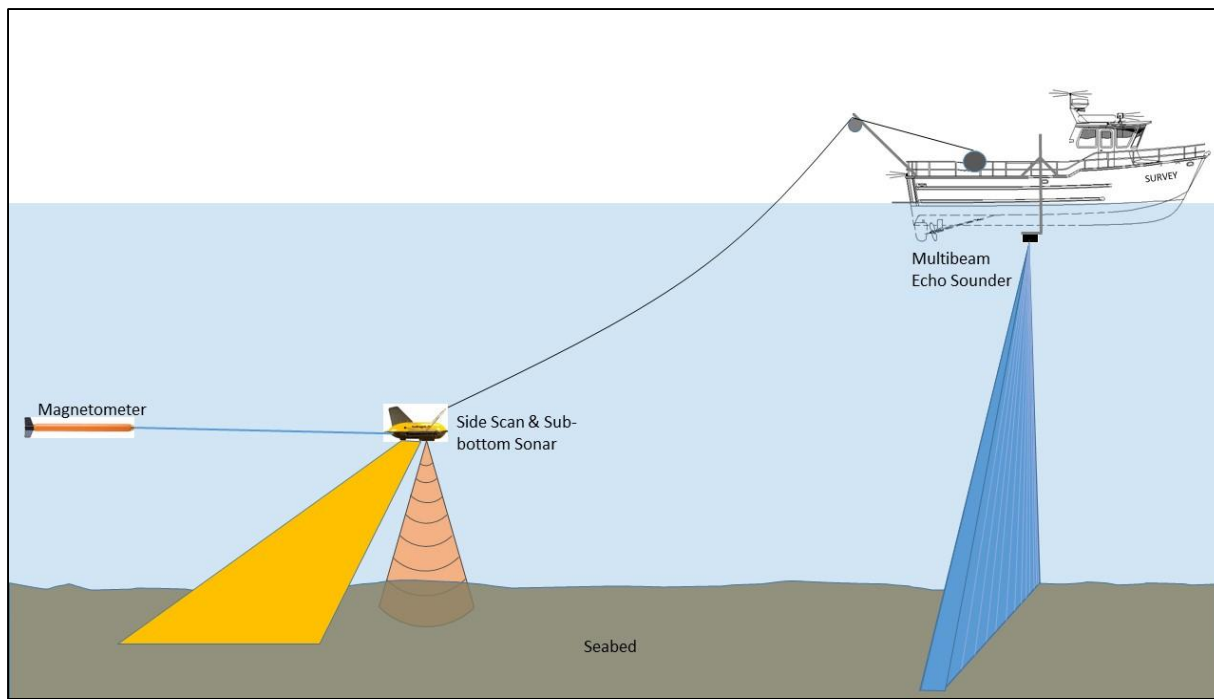




# 2015 Ancillary Activities

## Summer Activities:

- Shallow hazard and strudel scour surveys
- One day of helicopter overflight for strudel scour survey
- One 42' vessel based out of West Dock or SDI
- Approximately 5 days of sonar/bathymetric survey work
- Survey work will conclude prior to August 25







# 2015 Ancillary Activities

## Summer Activities:

Marine Mammal Observers

Passive Acoustic Monitoring:

- ✓ Ambient noise conditions
- ✓ Spatial and temporal distribution of marine mammals
- ✓ Long range propagation of sound in Foggy Island Bay.



# Questions?

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